15¢

The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCTION AND PIPE LINE DIVISIONS

THE WEEK'S NEWS INTERPRETED

APR 21 1937

APRIL 8, 1935
e 77 Number 4

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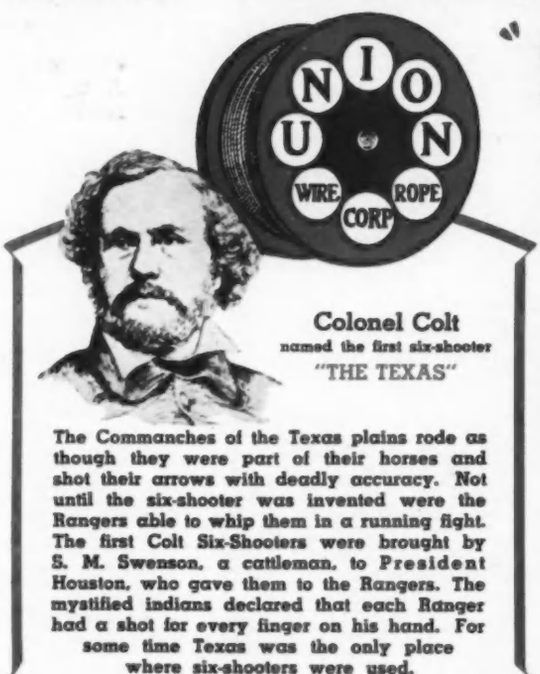
Now Texans tell us UNIONS are "Six Shootin'" Wire Lines



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Texas is a "six-barrelled" state in more ways than one, so it is not surprising that she pioneered the "six-shooter." Nor is it surprising that Texas oil men appreciate UNION Wire Lines—lines designed, as was the six-shooter, to improve on older equipment, do extra duty, and win against odds. Designed by oil men for oil field service, UNION Lines are built extra strong and tough. Today they are leaders in every Texas field.

This picture was taken at the Panhandle's deepest well—in Moore County—8012 feet—Lee Drilling Company, Contractors—UNION Lines used exclusively. The men are: Top row, left to right: Dave Davis, Tool Pusher; W. B. Hasenfuss, Union Wire Rope Corp.; D. E. McMahon, E. L. Adams, Wayne Walton, J. W. Mundy, C. B. Yowell, E. C. Bode, L. L. Rains, Geo. Coker, Driller; Curley Griggs, Driller; D. C. Benton, Driller. Bottom row: J. R. Pettygrove, I. J. Hendrix, Bob Lemaster, Clayton Hamm, Frank Rylant, Mike Hines, S. D. Drake, Jarecki Mfg. Co.; J. W. Markee, Farm Boss, Phillips Petroleum Co.

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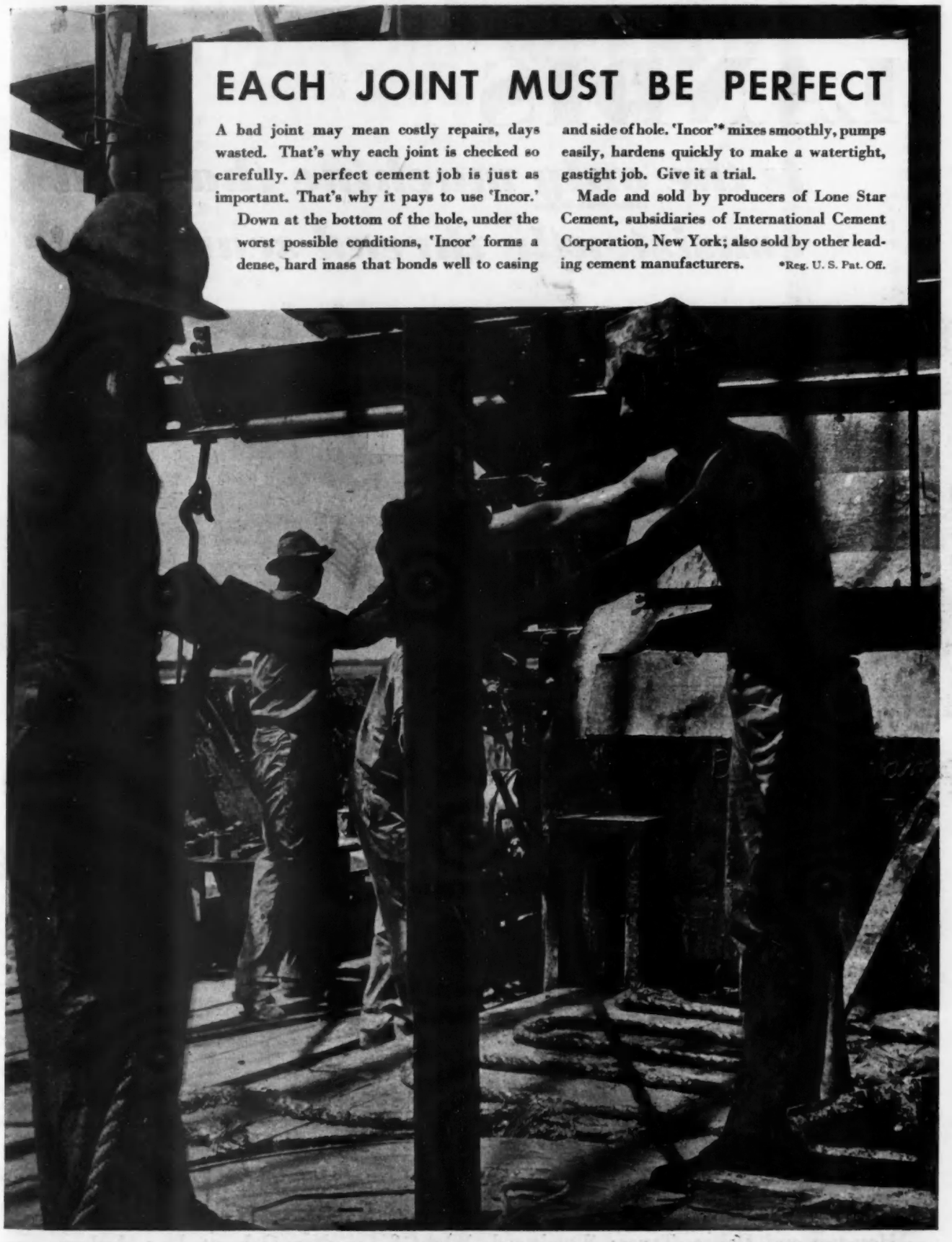

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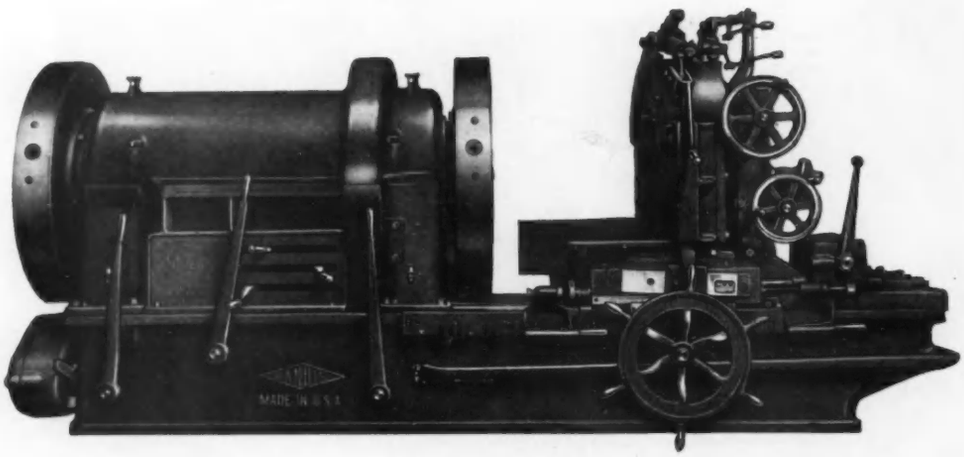

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THE OIL WEEKLY

ENGINEERING « STATISTICS » THE WEEK'S NEWS

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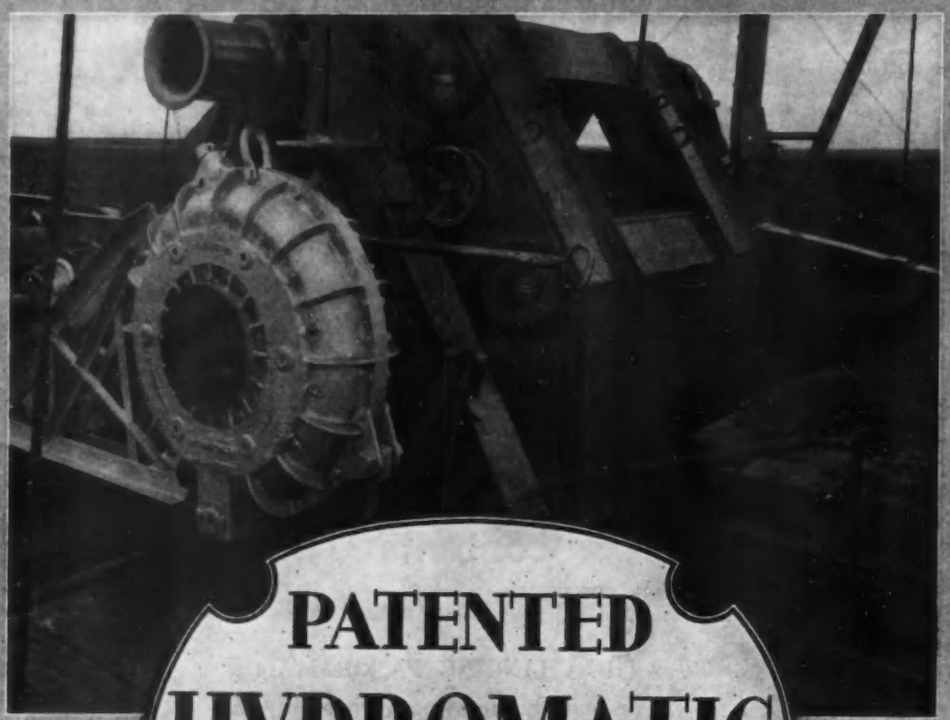

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VOLUME 77, No. 4

APRIL 8, 1935

THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

Texas Conservation Laws

OIL conservation laws in Texas would be completely recodified under a bill voted out favorably by the Senate Committee on State Affairs, and which already has been passed by the House. The bill, known as the new market demand law, is expected to get an early vote in the Texas Senate and likely will be ratified. Most of the important regulations adopted during the past four years are included in the bill. Under provisions the Railroad Commission would be permitted to determine the production of oil in excess of market demand and for the commission to consider this excess as one of the bases of physical waste. Page 11.

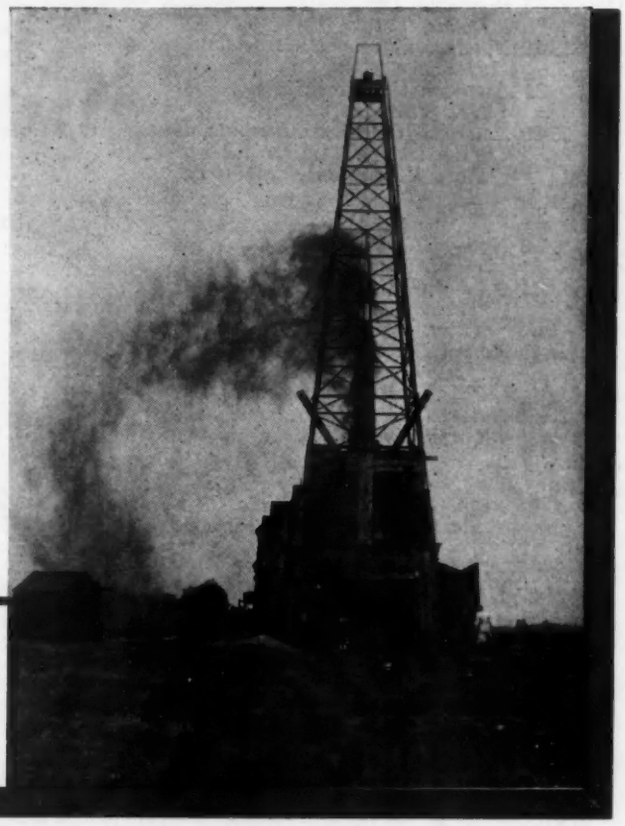
Michigan Strike

PROBABLY the most important Michigan development in the past two years is the finding of deep prolific production in Montcalm County. The discovery well is rated as a 3600-barrel producer and is the first deep production in this part of the state. Michigan excitement was at a high pitch as a result of the new discovery, and already from 10 to 15 rigs are running in the area. It is thought an important new oil reserve has been found, and probably the most important since the Porter township strike several years ago. Page 200.

Texas Ouster Suit

THE famous $17,000,000 penalty Texas anti-trust law violation suit, commonly referred to as the "Allred Ouster Suit," was dismissed last week by the Court of Appeals. Thus, a case that began in the summer of 1932, and which sought forfeiture of the right of 15 major oil companies to do business in Texas as well as the huge penalty, was brought to a close.

Page 12.



Discovery well of Montcalm County, Michigan, during the period it was flowing wild.

Water Production

ALTHOUGH only three barrels of oil are being produced in the Hendricks field out of every 100 barrels of fluid recovered, the field remains a commercial producing area. The field probably produces a higher percentage of water than any major field in the world. The great volume of water produced has created a number of problems not found in more conventional fields. Utilization of a combination of favorable natural forces enables the operators to produce the oil economically. These factors and Hendricks operating methods are described on page 24.

Excess Core Recovery

THE importance of coring wildcat wells is rapidly gaining recognition, and several problems have arisen. Noel H. Stearn, chief geologist, W. C. McBride, Inc., discusses some of these problems in an article entitled "Excess Core Recovery in Southwest Texas," which starts on page 21. He states that to insure more accurate results, the technique of coring must be developed with care to take account of the factor of expansion, which heretofore has been given little consideration.

The Oil Man's Calendar

APRIL
8-13 *Oil Equipment and Engineering Exposition, Houston, Texas.*
10-11 *American Petroleum Institute, Division of Production, Mid-Continent District, Amarillo, Texas.*
11-13 *Petroleum Industry Electrical Association, Dallas, Texas.*
18-19 *National Petroleum Association, Cleveland, Ohio.*
22 *American Chemical Society, New York.*
25-26 *American Petroleum Institute, Division of Production, Southwestern District, Plaza Hotel, San Antonio, Texas.*

MAY
1-3 *Natural Gasoline Association, Tulsa, Oklahoma.*
8-11 *Oil and Gas Power Division, American Society of Mechanical Engineers, Tulsa, Oklahoma.*
14-16 *American Petroleum Institute, Mid-Year Meeting, Mayo Hotel, Tulsa.*
20-21 *National Oil Scouts Association, Corpus Christi, Texas.*

JUNE
20-21 *Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.*

SEPTEMBER
25-27 *National Petroleum Association, Atlantic City, New Jersey.*

NOVEMBER
4-5 *Independent Petroleum Association of America, Annual Meeting, Dallas, Texas.*
11-14 *American Petroleum Institute, Annual Meeting, Biltmore Hotel, Los Angeles.*

Texas Gas Line Bill

THE Texas Legislature last week moved to enact a bill authorizing the State of Texas to construct a gas pipe line from the Texas Panhandle to St. Louis and Detroit. P.W.A. funds totaling $60,000,000 would be borrowed to finance the line.

A Senate committee has reported favorably on the bill and it is expected to pass the Senate. However, it may meet some opposition in the House, where one representative labels it as being "so fantastic that even the federal government would not lend money on it."

Page 11.

Hot Oil

LAST TEXAS hot oil, although below the volume of several months ago, is still of sufficient size to disturb the market. Current estimates are that around 30,000 barrels daily of illegal oil is finding its way to consuming markets. Shut off from rail movement by the tender boards, the entire volume is being forced upon Texas markets. Consequently, Texas markets have developed considerable weakness. Retailers in several cities have protested to the Railroad Commission and North Texas prices lost ground during the week.

ACTIVITY in North Texas, Panhandle and West Texas is increasing rapidly, which, together with the East Texas operations, gives the north half of Texas approximately two thirds of the completions being made in the United States. So far this year the completions in the area covering the entire north part from the east to west boundaries of Texas have been from 45 to 50 percent of the total.

Pipe Soil Corrosion

CORROSIVE soils are prevalent in California and the external corrosion of pipe lines is a major problem. Some companies have conducted extensive soil surveys. Two principal methods are being used in California for the determination of soil corrosivity. Some interesting and valuable results have been obtained. Page 29.

Second Quarter Opens Favorably

JACK LOGAN
Associate Editor

Prices higher than year ago, and demand for oils greater. Production control is successful, balancing supply with requirements. But hot oil output persists in East Texas, and is cause for some anxiety in the markets.

THE second quarter of 1935 has opened auspiciously for the oil industry. The markets are generally strong, and promise to continue so. The prices now prevailing are such as to justify hope that the second-quarter profits will be substantially better this year than last, even though the 1934 second quarter went onto the records as the best since 1930.

Markets Stronger Than Year Ago

AS the second quarter opens, wholesale gasoline prices are over 25 percent higher than at the same time last year. Retail prices were about the same or slightly better. Crude oil prices are unchanged.

The volume of business for oil companies promises to be higher this second quarter than it was last year. For the demand for oils has been running higher in 1935 than in 1934.

With both prices and volume of business higher, the oil companies are consequently starting the second quarter more profitably than last year.

Gasoline Prices Rise Further

AT the middle of the past week, just after the beginning of the second quarter, the prices of gasoline at refineries were at the highest levels of the year. The preceding week had brought some further progress in the upward price movement that had been under way for more than a month. The spot gasoline prices now available to Mid-Continent refiners are almost a whole cent better than the quotations prevailing this time last year. In East Texas, for instance, the tank car prices for third, middle and premium grades were 4, 4½, and 5 cents a gallon last week, compared with 3, 3⅝, and 4 cents a year previously. North Texas and Oklahoma prices were similarly improved at 4⅛, 4⅝, and 5⅛ cents, after having risen an eighth-cent during the preceding week. Retail gasoline prices have been firm generally in recent weeks, and increases are anticipated.

Contributing to the strength of the gasoline market have been the favorable control situation in East Texas and the seasonal rise of consumption as the spring advances.

Some Anxiety Over East Texas

ALTHOUGH the East Texas field is now under relatively strict control, it is still playing the role of villain, and as such is maintaining a considerable amount of suspense and anxiety. The markets would be even stronger than they are, but for persisting anxiety over East Texas.

Hot oil and hot gasoline of the area have been effectively shut off from states outside Texas. The Connally bill made that possible. The hot material has also been shut off, moreover, from rail movement within Texas. A state tender board prohibits tank car shipments of hot oil within the state, just as the federal tender board prevents interstate movements.

Trucks Still Move Hot Oil

BUT there is one remaining leak. The shipping of hot stuff from East Texas by trucks has not been stopped. And instead of improving, truck control has been growing less effective lately, as evidenced by a somewhat larger volume of hot oil.

It is true that the truck problem is primarily a one-state difficulty. The hot oil that goes forth in the trucks is being disposed of almost wholly within the Texas borders, finding retail market outlets in cities and towns within a few hundred miles of the field. The state authorities have sole power over those intra-state shipments, and if they do not get results, it is the markets of their own state that suffer.

Interstate Trucking Threatened

THERE is no definite assurance, however, that the national markets will consistently remain immune from the adverse effects of the hot oil trucking. The trucks have been stopping at points within the state chiefly because there has been no sense in going farther. The markets have been at similar levels within and without the state, and so the intra-state market has offered the best available profits.

But if the intra-state market becomes further flooded, while the out-of-state market continues improving, there

will come into existence an attractive differential to encourage trucking across the state lines.

It appears, therefore, that the Texas hot oil trucking constitutes a definite threat to the national as well as the state markets; that the out-of-state markets can not show substantial further improvement without running into the competition of the Texas hot oil truckers.

Texas Markets Become Weaker

THE first stages of the above outlined possibilities are, in fact, already materializing. The markets within Texas are relatively weak, as compared with those outside the state, due to the continued trucking of hot material and the backing-up of such products in the intra-state market since out-of-state outlets were cut off more effectively about March 1. Last week retail price-cutting broke out in North Texas, because of surplus material from East Texas. In South Texas a similar break was threatened, as service station owners using legal material appealed to state authorities for relief from competition involving trucked hot gasoline. They said they could not continue in business without resorting to use of illegal products.

While the Texas retail markets have become shaky, the wholesale markets have also reacted unfavorably. While North Texas and Oklahoma tank car prices on tenderable gasoline advanced another eighth-cent a gallon last week, those in East Texas remained stationary. Apparently, the tenderable East Texas material was meeting stiffer competition by untenderable, trucked gasoline, with some bargains in the hot material being offered.

Illegal Production Higher

THE output of hot oil in East Texas declined a few weeks ago to between 15,000 and 20,000 barrels daily, but for over two weeks has been estimated around 30,000 barrels daily.

There are some who say such a quantity of hot oil production is not enough to upset the markets seriously; that the industry can get along well despite that limited cut-price material. But in practice, the contention is being proved erroneous, even with the hot material bottled up in Texas. The 30,000 barrels a day *is* proving enough to disrupt the Texas markets and furthermore to threaten the national markets, as indicated above.

Vicious Circle of Hot Oil

THE 30,000 barrels a day (or even much less, in fact) is enough to set up a vicious circle of hot oil operations, into which law-abiding refiners and marketers are forced, if not lured. Those handling the hot material are price cutters; and their competitors, to stay in business, are forced to resort also to the illegal operations. Thus the circle widens, the hot oil output steadily rises, and eventually a crisis and market depression occurs.

It is to be expected, of course, that trucking of hot products across the Texas borders would result eventually in restrictive action by the federal government. At present, however, the federal government is concerned only with rail shipments, which are scrutinized by the federal tender board. To regulate interstate trucking, it would have to set up new machinery. In the meantime, the markets would have to suffer.

Obstacles in Truck Regulation

THE federal government would face the same difficulties, moreover, that the state faces in dealing with the hot oil trucking problem. To regulate the trucks seems at first thought a relatively simple matter. Inspectors can be stationed outside the East Texas refinery gates, whence the hot material comes; and upon the highways leading out of the district. The authorities can thus deal with truckers caught with untendered material, and with refiners found to be violating the laws.

But in actual practice, there are serious obstacles, which make the truck regulation a great and disheartening rather than simple task. It is not like controlling the rail shipments. The railroads will not make themselves subject to prosecution for handling untendered oil. If there are not supporting tenders, the oil does not move by rail. Even if the railroads refused to cooperate, the authorities could secure several injunctions and tie up all rail traffic in the district.

Many Trucks Involved

BUT with truckers as the transporters, the problem is entirely different. The truckers, unlike the railroads, are willing to take a chance on moving oil that is untendered or supported by bogus or forged tenders. If a few truckers are arrested, it is not as if several railroads were enjoined. The trucks have been going forth from East Texas lately in a stream of about 400 per day, and the volume of gasoline they carry is not appreciably affected by detention of several trucks.

Even when a truck is found moving material without supporting tenders, moreover, prosecution involves a long drawn out and costly procedure, which hardly seems warranted, considering the relatively small amount of oil involved. Even if found guilty, the trucker's punishment is merely a fine. Thus the state authorities are at a serious disadvantage, which makes their truck control efforts more or less futile. And the truckers know it, and are willing to take the relatively small risks involved.

Control of Refineries Difficult

AS another and more effective solution of the problem, the state authorities can work directly on the refineries whence the hot material emanates. They can ascertain allowable crude production to which the plants are supposed to be connected, check storage, and

(*Continued on page 163*)

Market Demand Law *for Texas Is Approved by* Senate Committee

Austin, Texas.—The Senate Committee on State Affairs last week voted to report out favorably the new market demand law passed by the Texas House the week before.

No amendments to the measure were offered in the committee, and members indicated by their questions that there would probably be little opposition to the bill.

Senator Clint Small, who is sponsoring the bill in the Senate, stated that he would attempt to bring it up for a vote on the floor during the early part of the coming week. The measure passed the House with only one dissenting vote, and no amendments were added on the floor, the bill as approved by the House Oil, Gas and Mining Committee being acceptable.

The measure provides for a complete recodification of Texas Conservation Laws as they have been modified during the past four years. As finally drafted, that clause of the bill which extends the Market Demand law until September 1, 1937, is one of the provisions of lesser importance.

The bill would enact in one statute most of the important regulations with which Texas oil operators must comply. It should be noted in this connection that there is no reference made to gas production, save in connection with the production of oil. It is planned to incorporate all law of this nature in the Panhandle gas waste bill, a measure which is now pending in the Senate, having been passed by the House.

The new bill states that the "commission may determine" the production of oil in excess of market demand exists, and it permits the commission to consider this excess production as one of the bases of physical waste for which curtailment of such production may be ordered. Formerly the bill "authorized" the commission to make such inquiries. Attorneys expressed the opinion that the revised phrasing would unquestionably make such consideration permissive rather than mandatory.

The commission would be specifically prohibited from holding wasteful any "mode, manner or process of refining crude petroleum . . . or in any manner limit the drilling of wells for the purpose of exploring for crude petroleum or natural gas . . . in territory not known to produce either. . . ."

The commission would be empowered to require any "person" who is "producing, storing, transporting, refining, reclaiming, treating, marketing, or processing crude petroleum oil or natural gas or the products of either to keep in this state accurate records . . ." The term persons has replaced language in the present statute which in some cases permitted evasions when oil was handled by persons not specifically named in the act.

There also is a provision which would permit the forfeiture of the charter of any concern, or the receivership of any concern, after it had been found guilty of violations of the act. This provision does not appear in the present law.

The bill provides for emergency orders to be issued by the commission without "notice or hearing." Specific provision is made, however, that in no event shall these orders remain in effect for more than 15 days. This provides sufficient time for the commission to issue 10 days' notice, hold a hearing and render a decision on the question.

Publication of commission orders is not required under this bill, so long as no criminal penalties may be assessed for violations of orders issued thereunder. Sponsors of the bill point out that no offense covered by the bill would be punishable by criminal penalties.

Orders requiring that the source of crude which has been processed must be shown, through tenders or otherwise, must be statewide. This provision virtually assures the permanent establishment of the tender system now extant.

The commission would be given specific powers to disconnect the wells of any operator who has violated commission orders. This procedure has been followed for several months, but is not clearly set out in the present law.

Jurisdiction of all suits against the Railroad Commission, either on the law or orders issued thereunder, is fixed in Travis County, "and not elsewhere."

Texas Legislature *Moves to Enact Bill Authorizing* State Gas Line

Austin, Texas.—Governor James V. Allred last Thursday presented to the legislature his bill to authorize the State of Texas to construct a gas pipe line from the Texas Panhandle to St. Louis and Detroit.

As introduced, the bill would permit the state to construct lines anywhere. The measure was drawn by State Tax Commissioner R. B. Anderson. P.W.A. funds totaling $60,000,000 would be borrowed to finance the line.

In a statement issued when the bill was presented, Allred said that the measure had been submitted to the Federal Public Works Administration and had been approved by that body.

The Legislature moved promptly to enact the bill. It was introduced in the House by Representative Eugene Worley of Shamrock.

Friday morning the House ordered it recommitted to the Oil, Gas and Mining Committee. Hearing before that committee has been set for Monday night. Representative H. G. Steward of Fairfield charged that the plan was so fantastic that not even the federal government would advance money on it. It is possible that the bill will pass the Senate before the House acts, so that the House members would vote on the Senate bill. Steward objected strenuously to the delegation of powers made to the six-man board of directors.

The measure was sponsored in the Senate by Senator Clint Small of Amarillo. During Thursday afternoon the Senate Committee on State Affairs voted the bill out through a report from the floor.

An effort to have the measure finally passed by the House Thursday was defeated, as most of the members had had no opportunity to read the bill.

The governor said that the measure as drawn would be designated Public Works Project No. 1 under the works bill now in Congress, providing it was passed in time by the Texas Legislature. This was the principal cause for haste.

There is a clause in the bill which would permit the proposed Texas Gas Conservation Corporation to construct and operate oil pipe lines as well as gas pipe lines. Tax Commissioner Anderson, author of the bill, declared that this was erroneously included and that he would ask that it be strcken when the bill is considered on the floor.

The bill as introduced would create the Texas Gas Conservation Corporation, which would be authorized to carry on all of the usual business of a private corporation engaged in the business of transporting natural gas. It would have the right to own and operate all types of

equipment attendant to such an operation, could connect with other distributing companies, buy and sell property and exercise the right of eminent domain.

A board of six directors, appointed by the governor and approved by the Senate, would control the corporation. They would serve without remuneration other than their actual expenses.

The corporation would have the right to borrow money or issue bonds against properties owned, but would not be permitted to pledge the taxing rights of the state to retire any such bonds. The state would be bound, however, not to alter the terms of the Act creating the corporation, so long as any of these bonds are outstanding.

Bonds issued may not run more than 40 years nor bear more than six percent interest. Full provision is made for the protection of bondholders through trustees and receivership, as in the operation of a private corporation.

Rates fixed shall be sufficient to cover all operating costs and sinking fund charges, but "the corporation shall not be operated for gain or profit or primarily as a source of revenue to the state."

Bonds issued are to be tax-free and would be classed as legal investments for fiduciaries, under the Texas statutes.

A thorough study of the problem has been made since last fall. The engineering firm of Hawley, Freese and Nichols, Fort Worth, has investigated the proposition and declared the plan feasible.

State Tax Commissioner R. B. Anderson, Colonel Paul Wakefield, personal representative of the governor, and Scott Gaines, first assistant attorney general, have made numerous investigations which indicate that the operation is practical if legal obstacles can be removed.

Appeal Court Dismisses *Famed Allred* Anti-Trust Ouster Suit

Austin, Texas.—The Third Court of Civil Appeals last week handed down a decision holding that the anti-trust laws of the state of Texas are unconstitutional. The decision was rendered in the case of State of Texas vs. Standard Oil Company, et al, widely referred to as the "Allred ouster suit."

The original suit filed more than three years ago, named as defendants 15 major oil companies, the Texas Petroleum Marketer's Association and the American Petroleum Institute.

The action was brought by James V. Allred, at that time attorney general of Texas. He alleged that the oil companies had conspired to fix the price and control the retail outlet for gasoline in Texas, through a "code of fair practices" operated through the two associations. Penalties totaling $17,000,000 were sought, as well as forfeiture of the right of each of the defendents to do business in state.

Trial of the case began in the summer of 1932, before Judge J. D. Moore in the 98th District Court at Austin. Attorneys for all the companies presented numerous pleas, finally urging that the National Industrial Recovery Act, which had become effective after the suit was filed, had superseded the anti-trust laws of Texas, and that the defendants were required to do under provisions of that statute what they had done voluntarily under the old laws.

The court sustained a general demurrer based on this argument and dismissed the suit. The case was appealed to the Third Court of Civil Appeals which handed down the decision last week.

When this decision was announced, Allred, now governor of Texas, declined to comment on it, or to indicate whether he planned to submit new legislation along this line. Some members of the legislature immediately began a study of the opinion to determine whether such laws might be passed at this time.

Attorney General Wm. McCraw refused to say whether he planned to take the case before the higher courts, but remarked that "The question is deserving of an expression from the Supreme Court."

The appeals court did not agree, in an opinion written by Associate Justice J. H. Baugh, with the grounds for the decision of the lower court. Nevertheless, the opinion was affirmed.

The decision was based on the so-called "Connolly" case in which the United States Supreme Court handed down a decision in 1902.

The Supreme Court held invalid the anti-trust laws because certain classes were exempt from their operation, which the court held was discriminatory, and therefore invalidated the entire statute.

After this decision was rendered, the Texas Legislature revised the anti-trust laws to conform. Subsequently, however, they were so modified as to err again in exactly the same direction.

The attorneys for the state sought to show that these modifications had crept in inadvertently, and were therefore beyond the scope of the legislative intent. The appeals court, however, found that this was probably not the case, since a study of the alterations in the law showed that the clauses complained of had on some occasions been revised, or specific allusions had been made to them. This was especially apparent, the court explained, in the Revised Civil Statutes of 1925.

"The Penal Code and the Revised Civil Statutes . . . were made effective at the same time (noon, September 1, 1925) . . . Clearly both acts deal with the same subject matter and must be considered together. Though enforceable in the one instance by criminal prosecution and in the other by civil suit, the penalties are essentially criminal in character .. . There being no conflict nor ambiguity in the provisions of the respective statutes, the Revised Statutes become the entire law on the subjects . . . That being true, it cannot be said that the classes exempted in the penal code are exempt only from the punishment therein provided; but that they may be subjected to the penalties prescribed in the civil statutes for a violation of the law therein contained . . . If an acquittal under the penal laws exonerates the offender from civil penalties, an exemption under the penal laws would for like reason operate as an exemption under the same law embodied in the civil statutes . . .

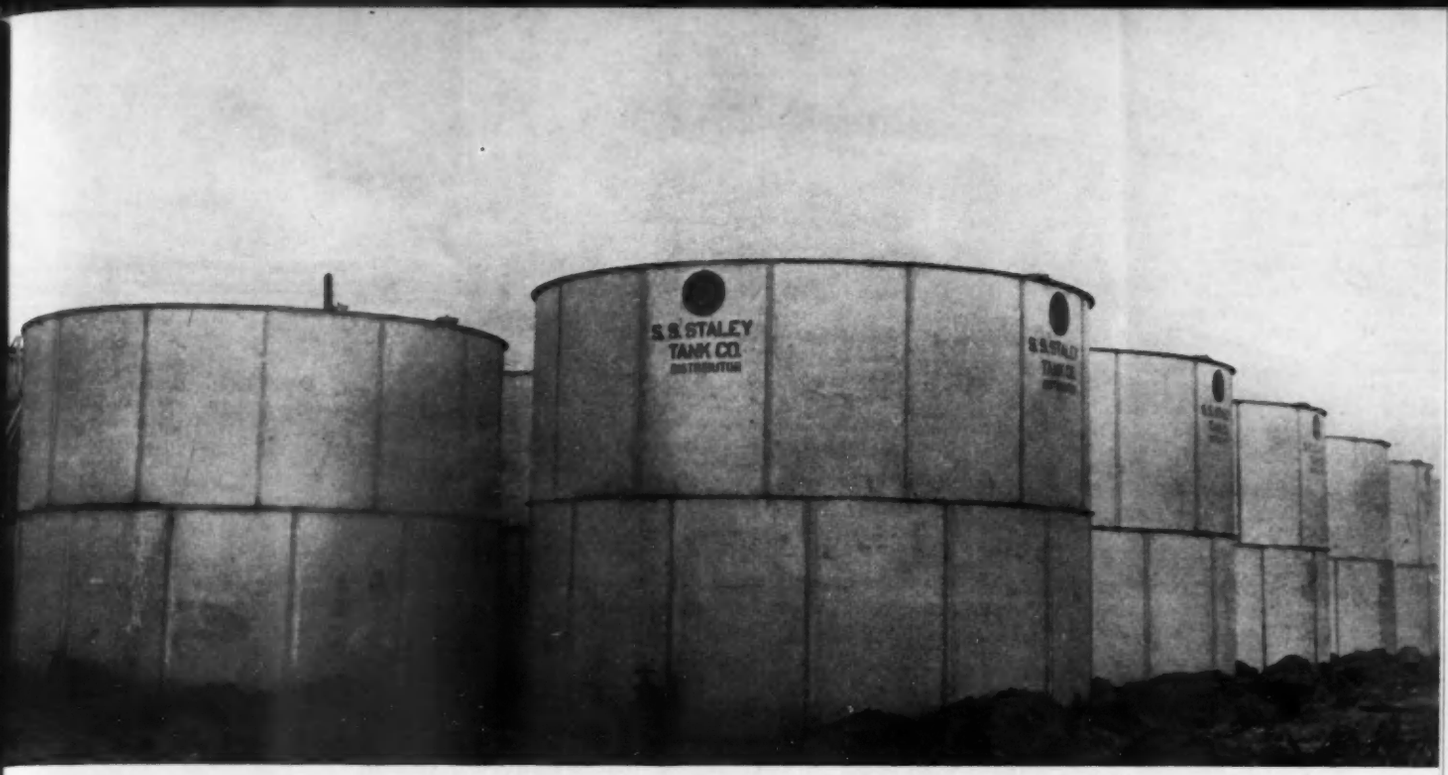
"The result is, therefore, that there is intentionally embodied in the anti-trust statutes, the exact exemption which the U. S. Supreme Court held in the Connolly case render such statutes unconstitutional . . .

"The Supreme Court having thus positively and clearly spoken we have no alternative but to follow the determination of the same issue presented in the instant case . . .

"It is also urged," the court pointed out, "that the anti-trust laws have been rendered invalid through the enactment of the Cooperative Marketing Act . . . It is urged by appellees (the oil companies) with much force that corporations authorized by the Texas (Cooperative Marketing) Act may depart from the purposes of the original marketing act and need not any longer remain merely mutual or cooperative marketing associations . . . It will thus be seen that a serious question is thus presented. Because of our conclusion that the anti-trust laws are unconstitutional, we refrain from passing upon these questions . . .

"Nor do we find it necessary to pass upon the effect that the National Industrial Recovery Act has upon the Texas anti-trust laws. Whether that act invades the field of intra-state commerce, and its constitutionality, are questions for the Federal Courts . . .

. . . "Whatever the ground upon which the trial court based its judgment, we think the demurrer was properly sustained . . .", the court concluded.

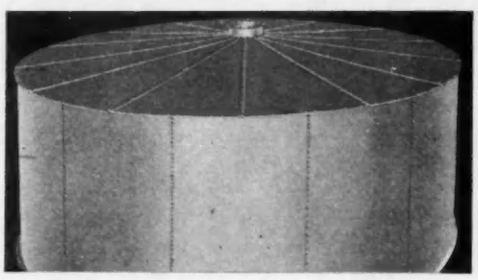


OUR GULF COAST DISTRIBUTOR

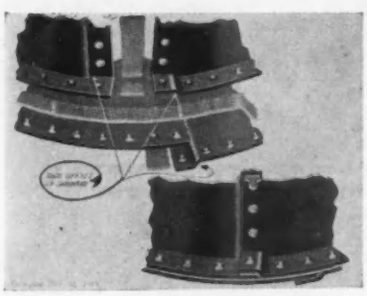
Offers Prompt Service to Gulf Coast Producers . . . Maloney Copper Steel and Paint Resist Salt Air

The above battery of 14-1000-bbl. MALONEY Tanks, on No. 1 Well of the Superior Oil Producing Co., at Bosco, La., is one of many fine batteries of MALONEYS erected in the Gulf Coast area of Texas and Louisiana by our Gulf Coast distributor, the Staley Tank Company. This company maintains Gulf Coast stocks at Houston and at Scott, Louisiana, and can deliver and erect MALONEY Tanks of any size desired in any Gulf Coast field on shortest notice. The Staley Company also carries stocks at Bruni and Tyler, Texas.

MALONEYS are constructed of rust-resisting Keystone Copper Steel, which has proved in actual exposure tests to be 200% to 500% more resistant to rust and corrosion than ordinary sheet steels. This resistance to the extreme atmospheric conditions of the Gulf Coast is further enhanced by our special corrosion-resisting paints—our red Chromated Iron Oxide paint, for interiors—and high-grade Aluminum paint containing 1¾ pounds of fine-meshed aluminum powder paste to each gallon of spar vehicle, for exteriors. MALONEY Tanks give years of satisfactory service on Gulf Coast leases.

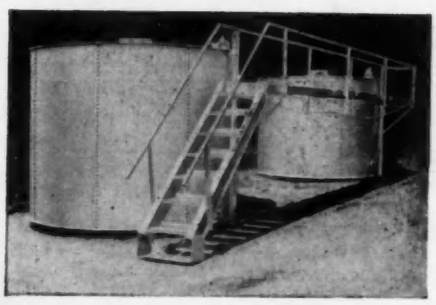


New Segmental Deck is Supported by New Extra-Strong 2 x 2 Rafters.



MALONEY Patented "Crimp" Secures Accurate Fit of Parts without Calking.

The MALONEY was the pioneer bolted steel tank, and our exclusive specialization in the manufacture of this type of tank and its accessories has developed a product of strongest construction, perfected in every detail. Special bolts are used, of 90,000 pounds tensile strength; packing is of resilient red rubber, cloth-inserted, and highly resistant to the action of oils; the MALONEY patented corrugation or "crimp", at all seams, reinforced by channel, increases rigidity of sheets and secures strictly accurate fit of all parts without calking.



MALONEY Rigid, Self-Supporting Sectional Stairway and Walkway.

Other features are new segmental deck, new, extra-strong 2x2 steel deck rafter, reinforced by channel and attached to segmental sheets, new extra-large 30" x 48" clean-out plate easily removed and replaced without getting inside tank, improved combination vacuum-pressure valve and thief hatch. We also manufacture the new self-supporting, sectional steel stairway and walkway here illustrated.

MALONEYS are built to A.P.I. specifications, in sizes from 65 to 10,000 bbls. Users throughout the world are finding these tanks durable and economical.

MALONEY TANK MFG. COMPANY

PACKED IN STEEL-BOUND CRATES FOR EXPORT

38 NORTH PEORIA

TULSA, OKLAHOMA

Office and Principal Warehouse: 2317 Quitman Street

General Business Office

Customer's Conference Room

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Incorporating many advanced ideas in arrangement, stocks and management, the Bridgeport Machine Company's Houston Store has attracted the attention and patronage of Gulf Coast operators and producers.

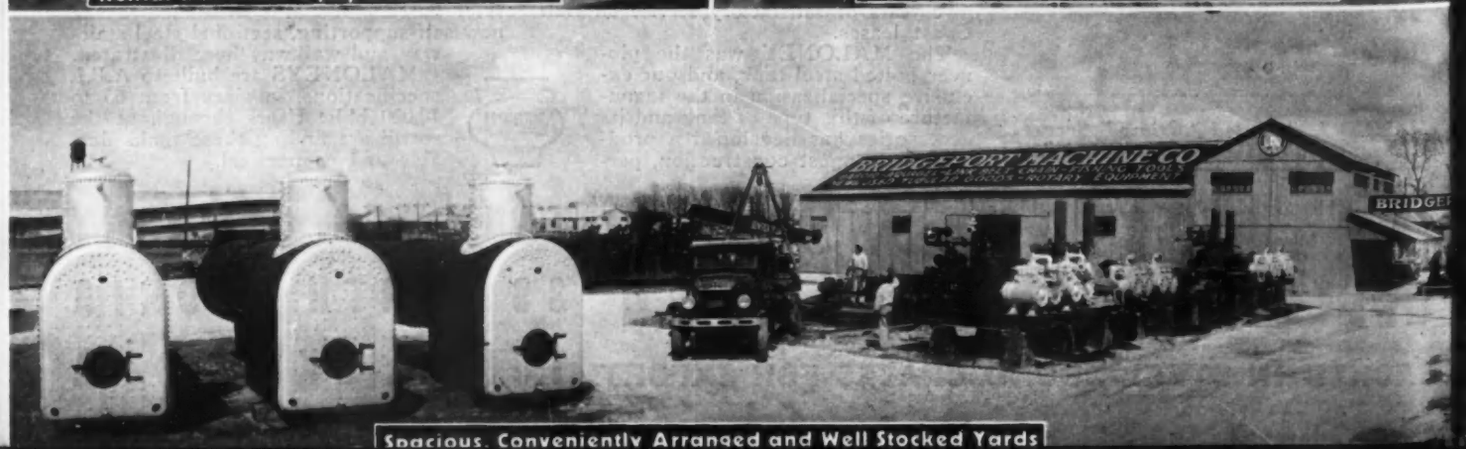
VISITORS ARE ALWAYS WELCOME

Location: 2317 Quitman St.
Telephone: C-1301—LD 203

FRED PARKS
Texas State Mgr.

Rental and Sales Equipment Warehouse

Partial View of Supply and Fitting Section



Spacious, Conveniently Arranged and Well Stocked Yards

MEN IN THE INDUSTRY'S NEWS

ERNEST E. KILPATRICK, formerly vice president of the old Tom Slick Oil Company and close associate of the famous wildcatter, is now head of Pool Drilling Company which drilled in the big Mid-Continent Petroleum Corporation gusher in the Edmond pool during the week.

J. N. "JACK" TROXELL, chief geologist in the Oklahoma-Kansas-Kentucky division of The Texas Company, has returned to his office after an illness of 10 days.

MICHAEL T. HALBOUTY, of the Yount-Lee Oil Company, Beaumont, Texas, was the speaker at the Houston Geological Society's regular weekly meeting April 4. He discussed the Evangeline (or Jennings) oil field, of Acadia Parish, Louisiana Gulf Coast.

OSCAR CHAMPION, of Amerada Petroleum Corporation scouting department, San Antonio, Texas, was elected president of the Southwest Texas Oil Scouts Association at the organization's annual meeting March 28. He succeeds John B, Shaw of the Marathon Oil Company. Shep Allen, Empire Gas and Fuel Company, Seguin, was elected vice president. L. K. Caskey, Republic Production Company, San Antonio, was elected secretary and treasurer. Herschel H. Cooper, geologist, and George R. Kelly, newspaper oil editor, both of San Antonio, were elected to the executive committee. The association voted to hold regular monthly meetings.

J. C. KERR, who has been an assistant production superintendent for Sun Oil Company in the East Texas field, has been transferred to Huntsville, Texas, to assume charge of production recently developed by the company in the Kittrell field, Houston County, and the Livingston field, Polk County.

COLONEL T. H. BARTON, Eldorado, Arkansas, president of Lion Oil Refining Company, has been in South Texas several days inspecting the company's properties. He witnessed the completion of a new producer in the McNeill field, discovered by the company several months ago.

THOMAS L. HALL, of Temple, independent operator, has been in South Texas several days looking over the situation.

PAUL WEAVER of Gulf Production Company, Houston, Texas, addressed the April meeting of the Shreveport Geological Society on "Geophysical Methods in Petroleum Exploration."

J. HENRY ESSER, president of Suburban Fuel Oil Service, Inc., Mt. Vernon, New York, and its affiliated companies, Petroleum Storage Corporation and Suburban Petroleum Products Company, Inc., is on his annual visit to Houston. This year his stay is prolonged by Suburban's new activities. Under the personal supervision of C. M. Johnson, consulting petroleum engineer, Houston, a new and novel manufacturing operation is being conducted at Houston for the purpose of producing quality heating oil from Gulf Coast crudes to suit the New York trade.

FRED E. FOSTER, for the past three years secretary of the Pacific Coast Petroleum Industries Committee, recently was made managing director and secretary of the California Oil and Gas Association. His appointment is, in effect, a consolidation of the two organizations, for in addition to his new work with the association, Mr. Foster will continue his duties with the Petroleum Industries Committee. Mr. Foster, a petroleum engineer, is a graduate of Carnegie Institute of Technology. Since the war, in which he was a colonel, he has been identified with a number of California oil companies.

FRED E. FOSTER

JOHN B. SHAW, Marathon Oil Company, San Antonio division, shortly will leave for Ardmore, Oklahoma, to be in charge of a new division of the company to be opened there. He has been with the Marathon organization for about 12 years.

EARL E. SMITH, National Tube Company of Pittsburgh, Pa., spent several days in Tulsa during the week in his first visit to the Mid-Continent after being transferred from Tulsa to Pittsburgh several months ago. Smith was formerly manager of the Tulsa office.

FRED SHAYS, geologist for United Production Company, Beeville, was the principal speaker at the San Antonio Geological Society meeting April 1. He discussed the Tuleta oil fields and adjacent area. Bill Spice, San Antonio geologist, led a round table discussion on the area.

DIED:

FRANK BRAVITY TAYLOR, SENIOR, veteran oil scout, and nationally known oil writer, died March 31 at Memorial Hospital, Casper. Death was due to heart failure. Mr. Taylor was taken to the hospital two weeks ago suffering from ulsers of the stomach. He was appointed Wyoming State Oil and Gas Supervisor by Governor Emerson and served from 1926 to 1933 in this capacity. He was Rocky Mountain correspondent for Oil and Gas Journal, Oil City Derrick, Wall Street Journal during Salt Creek boom from 1918 to 1926. Taylor was born September 13, 1882, at Oil City, Pennsylvania. He was the son of Frank H. Taylor, editor of Oil City Derrick. He was an oil operator at Parkersburg, West Virginia, for some time. Mr. Taylor is survived by his widow; brother, Harry P. Taylor, Pittsburgh; sons, Frank B. Jr., Borger, Texas, Don D., Casper; and daughter, Virginia, Casper. Five months ago he sold interest in Pyroil business and accepted position as Rocky Mountain scout for Sinclair-Wyoming Oil Company.

WILBUR WATTERS, rig building contractor, died suddenly March 28, at Mt. Pleasant, Michigan, following a brief illness. Funeral services were held March 31. Watters, a well known rig contractor in the eastern fields, had been operating in Michigan for several years. He engineered construction of a display derrick two years ago at the Century of Progress Exposition at Chicago. Surviving are his widow and one son.

Texas Asks $12,000,000 *For Alleged* Proration Violation

Austin, Texas.—Attorney General Wm. McCraw last week had filed against R. J. McMurrey, M. H. McMurrey, and Lucille McMurrey, seeking more than $12,000,000 in penalties for alleged violations of the proration laws of Texas.

Judge W. F. Robertson of the 126th District Court, placed the defendants' property in receivership at the request of the state. A petition filed by Assistant Attorney General Merton Harris alleged that several injunctions had been issued against the McMurreys, but that these had no effect. He alleged that the violations enjoined continued and that the defendants had boasted of the fact that the injunctions were ignored.

Subsequently, however, the court permitted the defendants to post $100,000 supersedeas bond. This action permitted the defendants to continue the control of their properties, and allowed them to appear to the Third Court of Civil Appeals at Austin.

The suit alleged that for nearly two years the McMurreys had been guilty of some of the following violations: Overproducing from six wells; operating the wells without tubing and permitting them to produce open through the casing; failure to burn flares; failure to file organization reports; failure to file refinery reports, either daily or monthly as required by Commission orders; receiving and transporting untendered oil; failure to file either production or pipe line reports as required by Railroad Commission regulations.

The suit filed by the attorney general sought to cover all the companies which the McMurreys used in their operations, through which it was alleged that they had conspired to violate the conservation laws of Texas and the orders of the Railroad Commission issued thereunder.

Named defendants were: R. J. McMurrey, Lucille McMurrey, M. H. McMurrey, Acme Oils, Inc., The McMurrey Corporation, McMurrey Refining Company, Acme Pipe Line Company, Tyler Texas Oil and Refining Company, Arpana Refining Company, Hercules Oil Company, and George C. Peterson Company.

F. W. Fischer and Everett L. Looney appeared as attorneys for McMurrey. Dallas Smith and J. C. Clopton were named receivers for the defendant concerns. Henry Brooks was named by the court as attorney for the receivers.

Judge Robertson Thursday ordered the McMurreys to post $500,000 additional bond after hearing a motion filed by Assistant Attorney General Merton Harris.

Harris pointed out that the defendants had some 300 cars of oil loaded for movement, and that in addition there were 750,000 barrels of products on hand which might be transported beyond the boundaries of the state at any time. He alleged that the value of these products was more than $800,000, and asked that the bond be increased to $900,000.

E. L. Looney, attorney for the defendants, immediately asked for a hearing before the Third Court of Civil Appeals, which was granted later the same day.

A writ of prohibition which would prevent the operation of the lower court's order was asked by Looney at this hearing. He set out that the defendants previously had posted bond of $100,000, which was approved by the District Court. This bond, the attorney contended, was to supersede the receivership and to serve as an appeal bond as well.

He pointed out that the case now was in the hands of the Third Court of Civil Appeals, and therefore beyond the jurisdiction of the trial court, in his opinion. He asked that a temporary restraining order be issued forbidding the receivers to take charge of the property again, as instructed in the new order issued by Judge Robertson.

Chief Justice James McClendon declined to take this action unless the defendants were willing to make an additional bond sufficient to indemnify all parties affected. He suggested instead that an early hearing on the application be set.

Henry Brooks, attorney for the receivers, stated that he was willing to advise his clients to make no effort to take charge of the property pending the outcome of this hearing.

Judge McClendon suggested that the hearing be held Friday afternoon, to which all parties agreed.

After the hearing Friday afternoon, the Third Court of Civil Appeals held void the order of the 126th District Court, increasing the bond to be posted by $500,000. The appeals court held that the trial court had no further jurisdiction over the question after the McMurreys had posted bond as required originally. Attorney General McCraw then filed a motion asking that the appeals court increase the bond. He presented the same arguments to show that the defendants had on hand hundreds of thousands of dollars worth of property which could readily be transported beyond the jurisdiction of Texas courts. An additional $900,000 bond was requested, which would bring the total bond to $1,000,000. The appeals court set this application for hearing on April 9.

Western Refiners *Told Public Utility Threat Contained* in Revised NRA

Excelsior Springs, Mo.—Detrimental effects to the petroleum industry if the revised National Industrial Recovery Act becomes law as now written were outlined by Fayette B. Dow, Washington counsel for the Western Petroleum Refiners Association at its annual meeting here April 4 and 5.

The impression given out in Washington is that the proposed bill is but an extension of the National Industrial Recovery Act. You can see by this comparison, stated Dow, that the measure under consideration is something far different from an extension of law already on the statutes.

Furthermore, this bill would leave it possible to force the petroleum industry into the classification of a public utility. We have had threats of that from Washington but authority does not exist for it. With adoption of this measure as offered by the administration authority would exist for that move. Dow discussed refusal of the attorney general to press the Belcher case as a test of NRA before the Supreme Court. He said the proposed measure sought to correct points which made this case weak from the viewpoint of the government. This bill, he added, contains the first legislative reference to a code authority. Furthermore, under its provisions organizations within an industry would cease to hold power allowed under the present bill. The Planning and Coordination Committee, for instance, would be relegated to merely an advisory capacity, since no final discretionary power could be delegated to an organization composed in whole or in part of persons within the industry under control.

The threat of public utility classification for the petroleum industry exists under authority which this measure would grant the President provided he should find it necessary to promote or sanction devices for price fixing or

Barrett

PIPE LINE ENAMELS

Reproduction of the micrograph above shows the interlocking of the flakes of the internal reinforcement used by Barrett. By laminating with the waterproofing agent they give Barrett Pipe Line Enamels unusual toughness and resistance to soil stresses.

For pipe of large diameter, The Barrett Company will furnish equipment required to revolve pipe and spread enamel.

Increase the useful life of underground pipe lines

The useful life of an underground pipe line is measured by its resistance to corrosion. When soil acids, moisture and stray electrical currents are definitely and continuously kept from contact with the pipe metal, corrosion cannot occur. Barrett Pipe Line Enamels, when properly applied, provide efficient waterproofing and insulation against corrosion from outside sources. To provide a tough coating which is dielectric and which resists soil stresses is the purpose of these Barrett Enamels. For helpful cooperation in solving any problem of pipe line protection, consult with the Barrett technical staff.

THE BARRETT COMPANY, 40 RECTOR STREET, NEW YORK, N. Y.

controlling production under five sets of conditions. One of the five reads: "To those trades or industries which are not or hereafter subjected to governmental regulation of prices, services and methods of operation as public utilities, or as natural resource industries, (such as among others, coal, oil or gas) or because they are found to be affected with a public interest." In considering this Dow said: "Oil is specifically mentioned as an industry of the type that may be so classified. Furthermore the lawyers know that the words affected with a public interest apply only to public utilities. There can be no doubt that this is a threat of public utility classification for the petroleum industry."

C. N. Boggs, Kanotex Refining Company, Arkansas City, Kansas, was elected president of the association at the final session. Vice presidents are H. T. Ashton, Lubrite Division Socony-Vacuum Oil Corporation, St. Louis; Roy B. Jones, Panhandle Refining Company, Wichita Falls; R. W. McDowell, Mid-Continent Petroleum Corporation, Tulsa, and T. H. Barton, Lion Oil & Refining Company, El Dorado, Arkansas.

The annual meeting opened with memorial service in memory of Howard Bennette, Tulsa, president, who died March 10 at Rochester, Minnesota.

Texas Field Labor Safety Bills Tied Up

Austin, Texas.—Two bills sponsored by oil field labor organizations were bogged in a sub-committee of the Senate Labor Committee late last week. Because of these delays, it appeared doubtful that the measures would get through either house at this session of the Legislature. Both of the bills were introduced by Senator Joe Hill at the request of the oil field workers.

One bill provides for the annual inspection of boilers. While it applies generally to all boilers carrying 15 or more pounds of pressure, it is aimed at obsolete boilers used in the oil fields.

Exempt from inspection, and the attendant fee, are all boilers which are annually inspected by insurance companies, or other properly qualified boiler inspectors approved by the state labor commissioners.

The remainder, whose number was unestimated, would be inspected by agents of the commissioner. A fee of $3 for an outside inspection and $7.50 for an interior inspection is provided in the bill.

The second bill is far more comprehensive. This is a general safety bill providing for safety devices on every type of machinery and equipment used in the oil or gas industry.

As originally introduced, the bill provided 139 rules covering everything from the location of fire extinguishers to the width of the rungs on ladders.

Senator Hill recognized that this measure contained such complicated regulations that it would be bogged in a morass of amendments. For this reason he urged the sponsors to prepare a more general bill, which would empower some state agency to promulgate the rules.

International Exposition To Be Held May, 1936

Tulsa.—May, 1936, has been set for holding the Ninth International Petroleum Exposition and Congress in Tulsa, W. G. Skelly, president announces.

"The directors representing major and independent companies, and the producing, pipe line, refining and marketing divisions have approved this date in accordance with wishes of exhibitors and the oil industry," said Skelly.

W. B. Way, general manager, at the request of the directors sent a questionnaire to past exhibitors some time ago and they expressed the desire that a show be held every two years as there was not enough change and improvement in equipment and scientific and technical apparatus to warrant the expense of showing yearly.

The International Petroleum Exposition is a non-profit institution owned and controlled by the oil industry. The last show was held in May, 1934.

Champions

These happy men are one of the crews that drilled the world's first 12,000-foot test. The well, Gulf Production Company's J. T. McElroy 103, Upton County, West Texas, is drilling ahead below 12,230 feet. From left to right: R. C. Randolph; C. P. Neal; T. E. Patrick; H. D. Holiman; and Raymond Knox.

Photograph courtesy J. C. Ballagh, Patterson-Ballagh Corporation.

Humble Engineering Department Changes Made

Houston. — Various transfers and changes have been made lately in Humble Oil & Refining Company's petroleum engineering department for the Gulf Coast. Among them were those listed below.

J. E. Eckel, formerly district petroleum engineer at Conroe, is now in the Gulf Coast division, petroleum engineering department, at Houston, the company's headquarters.

J. S. Boldrick, formerly petroleum engineer at Kittrell field, is now district petroleum engineer at Thompsons.

J. S. McCune is now district engineer at Conroe. He was formerly district engineer at Thompson.

J. M. Barber will be petroleum engineer at Tomball field. He was formerly in the Gulf Coast engineering department at Houston.

C. H. Eckel, formerly petroleum engineer at Tomball, is now a member of the electrical engineering department at Houston.

N. F. Henderson, formerly petroleum engineer at Tomball, is now in the Gulf Coast engineering department at Houston.

The Cleveland Tractor Company says—

"WE FIND DAYTON V-BELT DRIVES MUCH MORE EFFICIENT"

● Today Dayton V-Belt Drives are used on all types of machines in the highly efficient plant of the Cleveland Tractor Company. In speaking about these drives, Andrew Fussner, the Master Mechanic, says: "In addition to greater efficiency, these drives have effected real power savings. Previously power was supplied to run all machines in a department or building when, frequently, only a few machines were being used. Further, we find that maintenance costs are much lower—the plant is cleaner and safer and much valuable floor space has been saved by using these individual drives. Thus, our total savings in a year are very much worth while."

Engineers and Production Managers in thousands of plants of all kinds have secured similar results by installing Dayton V-Belt Drives. Here are some of the reasons why. Dayton V-Belts are "built-to-bend." Their exclusive and patented construction makes them more flexible. They are die-cut, not molded. They accurately fit the grooves of all standard pulleys. Their rigid crosswise construction prevents distortion—there is no slipping or weaving. This means smoother running . . . positive speed . . . less tension . . . less wear on bearings. Machines last longer and there's practically no maintenance cost.

EXTREME CROSSWISE RIGIDITY

● *No other V-Belt combines such positive crosswise rigidity with such extreme flexibility.*

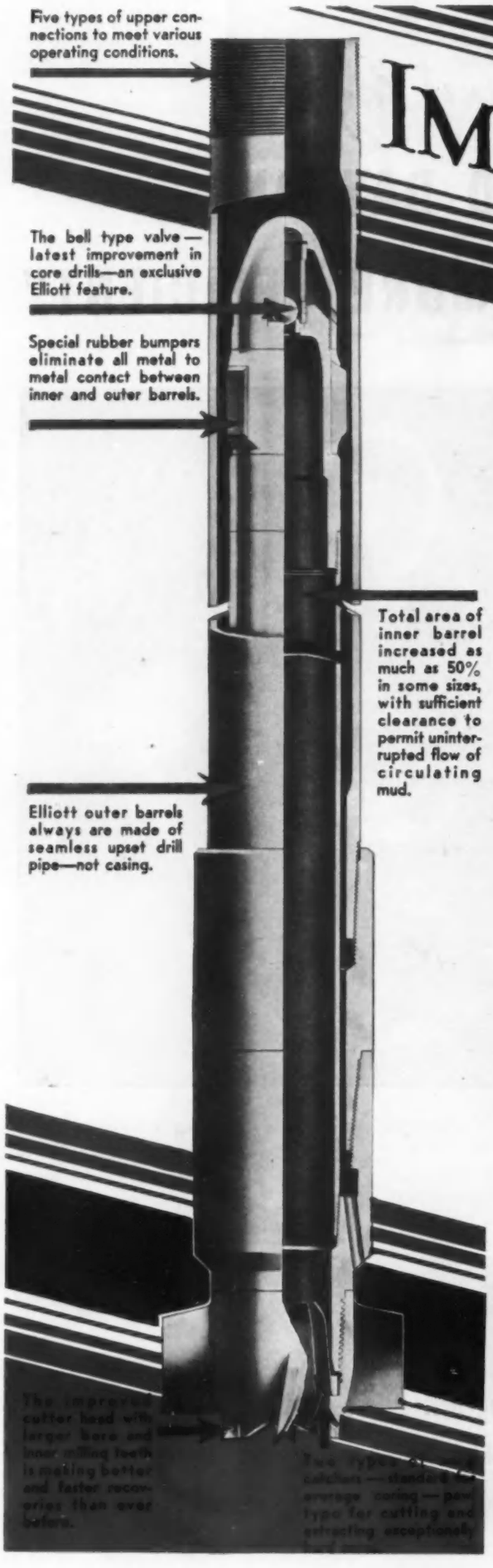
And there's much more to tell. Let us give you all the facts about the many exclusive advantages of Dayton V-Belt Drives. Wire or write today.

THE DAYTON RUBBER MFG. CO.
Dayton, Ohio
The World's Largest Manufacturers of V-Belts

Dayton
COG-BELT DRIVES

Cog-Belt Drives—F.H.P. V-Belt Drives—V-Flat Drives—Complete Drives, Pulleys and Belts in Stock. Fractional to 100 H.P.

IMPROVEMENTS?


Five types of upper connections to meet various operating conditions.
The ball type valve—latest improvement in core drills—an exclusive Elliott feature.
Special rubber bumpers eliminate all metal to metal contact between inner and outer barrels.
Total area of inner barrel increased as much as 50% in some sizes, with sufficient clearance to permit uninterrupted flow of circulating mud.
Elliott outer barrels always are made of seamless upset drill pipe—not casing.

Let's just have a look at some core drill improvements that are making history right now.

The original Elliott Core Drill was manufactured and used successfully by this company back in 1921. Since that time Elliott has had no problem other than development and improvement to meet constantly changing field and drilling conditions. A complete staff of engineers, drillers, metallurgists, and field men always has been maintained for that purpose. Their efforts have been directed toward perfection in the recovery of dependable cores rather than general experimentation. As a result Elliott performance consistently has set a high standard in coring practice.

The Elliott Model 34 is vastly improved over any previous one, embodying many outstanding improvements in design, construction and operation. It cuts more core, but less formation. The cutting units cut faster and wear longer. Core recoveries are increased. Safety factors are better balanced. For detailed information write for Bulletin No. 34.

ELLIOTT CORE DRILLING COMPANY

4731 East 52nd Drive, Los Angeles, California, U.S.A.
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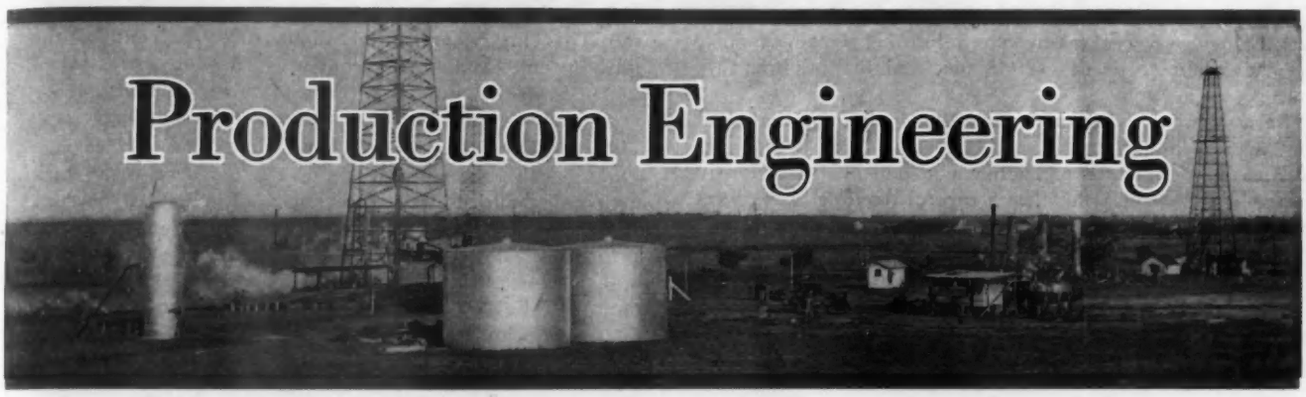
ELLIOTT CABLE TOOL *and* ROTARY Core Drills



Excess Core Recovery in Southwest Texas

NOEL H. STEARN

Chief Geologist, W. C. McBride, Inc., St. Louis, Mo.

THE importance of coring wildcat wells throughout the Gulf Coast, Southwest Texas, and other areas where drilling is all done with rotary equipment, is rapidly gaining practical recognition. Extensive coring is being found to be necessary not only to prevent the possibility of passing through unsuspected producing sands, but also to give subsurface geologists adequate data with which to work out structure, especially in those wide spread areas in Southwest Texas where geophysical data, surface data, and even paleontological data are all found to be inconclusive and unsatisfactory.

Because of the expense of coring and the importance of the information derived from the cores, it is essential to secure as nearly complete recovery as possible. Such a statement would appear to be ridiculously obvious were it not for the fact that recently it has been demonstrated that even 100 percent recovery does not necessarily mean complete recovery.

Heretofore, for example, when a 10-foot core barrel was attached to the drill stem, and 10 feet of hole were drilled, it was assumed that if the core barrel came out full, a complete recovery had been achieved. The possibility that as much as one third of the total core cut could be missing under those circumstances was not recognized.

Recognition of this fact was brought about primarily by Fred Thrift of San Antonio, Texas, who is using a new coring apparatus, the salient feature of which is an inner core receiving tube held in place in the core-head bit by the pressure of the drilling fluid, and so devised that when the receiving tube is full or is plugged so that no more core can enter, it immediately indicates to the driller that he is no longer taking core. The core receiving tube can then be removed through the drill stem by a wire line grapple, and the core extracted or the plug cleaned out.

The original purpose of the design was to prevent what frequently happens in coring, when the driller continues to make hole while the core barrel is not functioning properly, thus irrevocably losing what may be crucially important cores. Although the new design serves its original purpose adequately, it has developed another function of equal significance; i.e., warning the driller that the core barrel is full even before he has drilled the full length of the barrel, thus preventing the possibility of drilling on into lower formations when the expansion of the first part of the core has filled the core barrel before it has drilled its full length.

Instances of core expansion have been noted in coring with almost all types of core barrels, but the recovery is usually so imperfect that no quantitative idea of the importance or amount of core expansion could be derived from them.

The device was first used on a well drilled for Lefevre and Spice in the Jacobs pool of McMullen County, Texas. Then several shallow wells in Live Oak and Atascosa counties, Texas, were cored with it. In all these wells the excess core recovery was noted by the operators, but not recorded. During the drilling of W. C. McBride, Inc. and DeLange Nelson 1 in Live Oak County, Texas, the McBride geologists called it to the attention of United Production Company scout, who interested the district geologist of that company[1] in using one of the core barrels on deeper wells in Bee, Nueces and Starr counties, Texas. A wildcat well drilled by United Production Company in Starr County was the first one on which extensive continuous coring was done. During this coring the expansion was very marked, but no records of the comparison between core cut and core recovered were made.

When W. C. McBride, Inc., Hagist 1, in northern Duval County, Texas, was to be drilled it was decided to make a complete core log from the top of the Jackson formation to the bottom of the hole. Although the coring device mentioned was still in the experimental stage of development, Mr. Thrift was chosen as contractor because of the action of his core barrel on previous well. The well was

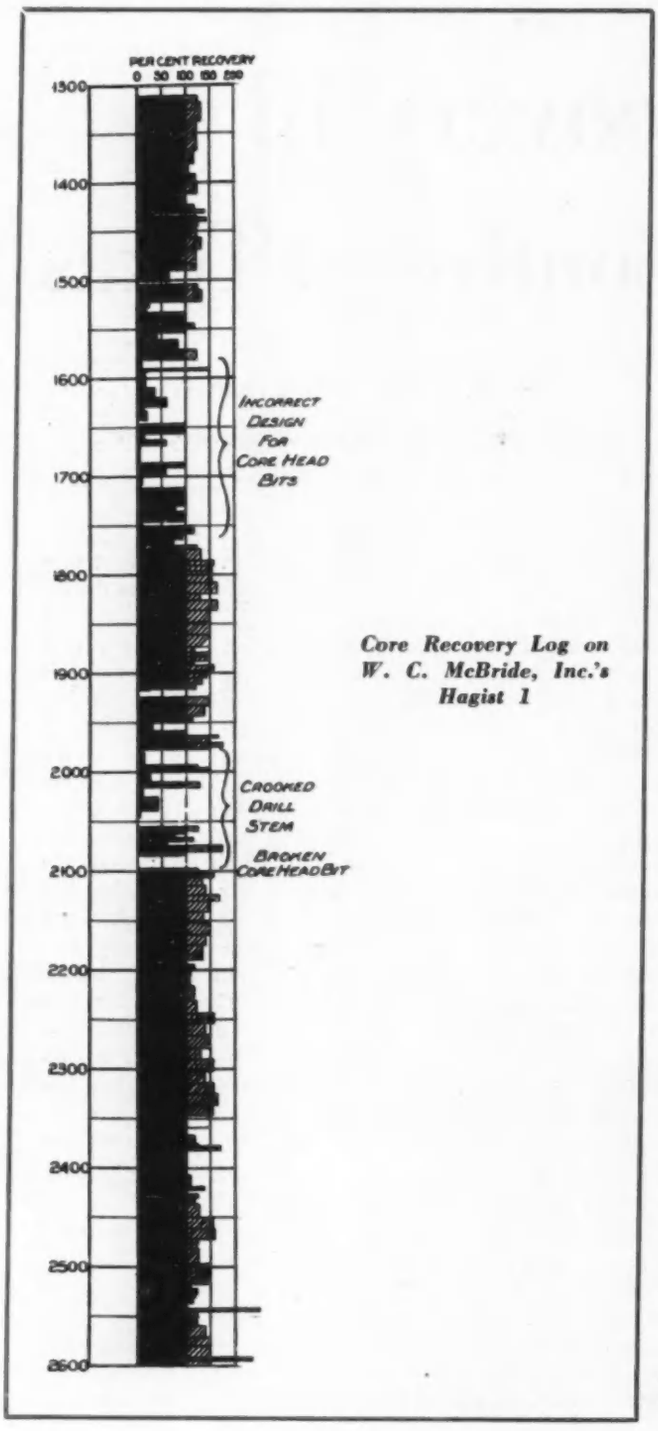
[1]Mr. Fred Shayes.

completely cored from 1310 feet to the total depth of 2600 feet; 176 cores were taken, averaging 7½ feet per core. The maximum core cut was 18 feet and the minimum ½ foot.

The geologists[2] who supervised the drilling of that well were astute enough to sense the possibility of a real significance in the core expansion which had been previously observed, and thanks to them, careful records were kept showing the number of cores taken, the amount of hole cut for each core, and the amount of solid core recovered from each cut.

Because the coring device was still in the experimental stage, occasional mechanical trouble was encountered during the coring, and seven out of 176 cores were completely lost. This loss represented about three percent of the total hole cut. Fractional recoveries on some cores introduced a loss of about 13 percent of the total hole cut, so that the total of the lost core amounts to about 16 percent of the amount of section drilled.

[2]Mr. K. A. Simmons, San Antonio District Geologist for W. C. McBride, Inc., and Mr. L. L. Palmer, his assistant.



Core Recovery Log on W. C. McBride, Inc.'s Hagist 1

On the other hand, 133 of the 176 cores or over three fourths of them showed a recovery of over 100 percent, i.e., the length of the solid core removed from the barrel was greater than the amount of hole cut in securing that length of core. As a matter of fact, in spite of the lost cores mentioned above, 1378 feet of solid core were taken from 1290 feet of hole cut, showing a total core recovery of about 107 percent.

By the time the well had reached 2097 feet all mechanical difficulties had been overcome so that during the drilling of the last 503 feet, the device worked perfectly, and the coring with complete recovery averaged 10 feet of hole cut per hour from 2097 to 2600 feet. From the last 503 feet of hole 677½ feet of solid core were taken, amounting to a recovery of about 135 percent.

The details of recovery on this well are shown on the accompanying core recovery log. The solid black area indicates recovery up to 100 percent, or a core equal to the length of the amount of hole drilled. The cross-hatched area indicates recovery in excess of 100 percent. The rare cases of recovery in excess of 200 percent are thought to be due not entirely to core expansion, but partly to inaccuracies in the measurement of very short cuts due to variations in the stretch of the drill stem. These inaccuracies of measurement, however, do not influence the total results because they are compensatory.

This carefully compiled quantitative record of excess core recovery has a significance beyond being merely a curious phenomenon. It indicates that core expansion often causes unrecognized losses amounting to as much as 1/3 of the core cut even when complete recovery was considered to have been made, because the ordinary core barrel does not indicate when it is full. And the computation of core losses in cases of incomplete recovery must include a factor of core expansion. Heretofore core losses due to failure to make complete recovery have been figured on the basis of the difference between the length of the core recovered and the length of the cut taken. It now appears that this is not even a close approximation to the correct figures, due to the expansion of the cores as they are taken.

In order to insure more accurate results, the technique of coring must be developed with care to take account of this factor of expansion which heretofore has been given little consideration. Careful measurements of the amount of hole cut should be made, and no single core should be cut longer than about two thirds of the length of the barrel in use. Care should be taken to keep an even weight on the drill stem when measuring the hole cut, in order to prevent inaccuracies of measurement introduced by the difference between what the measurements on the Kelly would be when the weight of the drill stem is resting on bottom and what they would be when the drill stem is suspended but touching bottom. With the accumulation of careful coring records from which can be derived accurate figures on core expansion such as those described here, it might even be possible to develop the possibility of correlation between wells by core expansion.

The facts regarding excess core recovery are here presented as of great importance in the exploration and development of those extensive areas, such as Southwest Texas, where the information derived from coring is really the last resort to which operators may turn for guidance.

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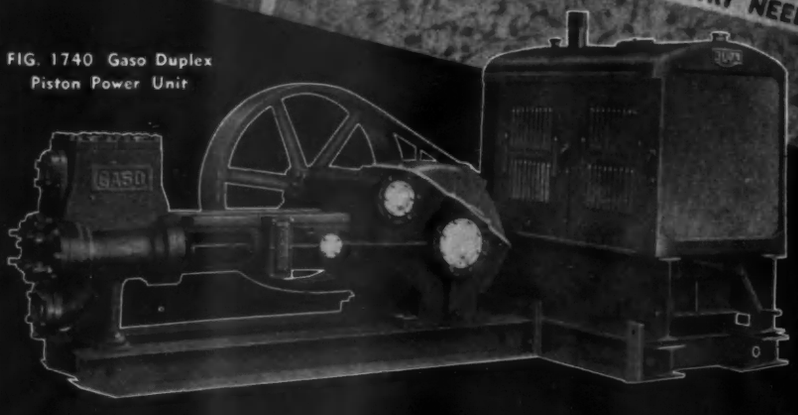

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Only three barrels of oil recovered at Hendrick out of every 100 barrels fluid produced, yet field due to adaptation of natural factors, remains economical to produce

On opposite page is shown a series of pits used to handle sulphur water at Hendrick

Hendrick

BRAD MILLS
Associate Editor

THE Hendrick field, Winkler County, West Texas, is producing a higher percentage of water than any major field in the world. Despite this high water yield of 450,000 to 550,000 barrels daily, an oil production of 17,000 to 18,000 barrels daily is obtained. Only the utilization of a combination of favorable production forces enables the field to maintain its status as an economic producer.

A production of 97 percent water and three percent oil is so unique that it is necessary to study reservoir and production conditions to appreciate the position occupied by the field. Low lifting or flowing costs, a steady fluid supply, inexpensive separation of oil and water, and a minimum effort and expense in disposing of water are absolute requirements in producing a field that yields only three barrels of oil from every 100 barrels of fluid brought to the surface.

The present status of the Hendrick field illustrates the course that a water drive, gas cap area will take if produced in an improper manner. The enormous gas waste recorded during the early and intermediate history of the field resulted in a heavy production of oil, but operators now are paying for that waste.

The field, first to be prorated in Texas, is located in an area that at one time was thought to be the deepest part of the Permian basin. The prolific production of oil has been due to the high porosity in the limestone horizons, the great hydrostatic pressure of water, and the aid of great quantities of gas in the upper portion of the producing formation.

The great volume of water produced in the Hendick field has created a number of problems not found in more conventional fields. Separation of oil and water, disposal of the sulphur water, necessity for lifting and handling enormous quantities of fluid to obtain a profitable quantity of oil, and the increasing percentage of water in a number of wells are factors in a difficult field program.

The field could not be operated at a profit in a congested area, or in a district where water disposal would be a problem. The field is located in one of the most sandy areas of West Texas, the sand dunes forming a topographic "high" extending through the producing area. There is little danger to vegetation, livestock or communities, in connection with the sulphur water disposal. The almost unlimited area available for use as settling basins and evaporating ponds gives the largest water producers an opportunity to dispose of the accumulation at little expense.

The flow from wells is handled in a number of ways, with the nature of the emulsion and weathering conditions affecting the practices of many small operators. The larger companies use a series of settling tanks, but earthen settling basins and skimmers are not unusual. During hot weather the separation problem is a simple one.

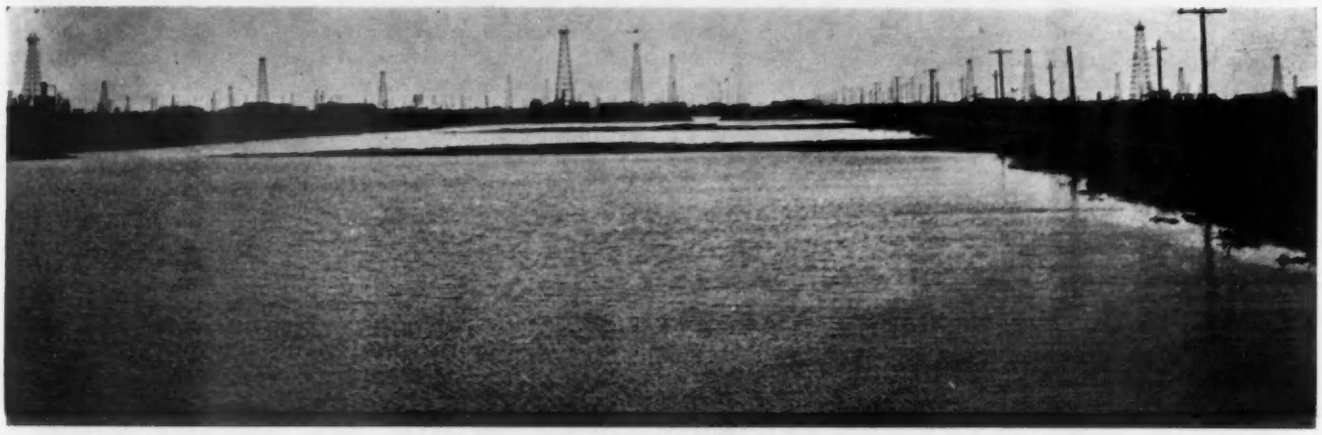
Water Separation

The Texas Company has equipped its producing leases with a series of flow, settling, and storage tanks that has proved effective under ordinary conditions. This tank combination consists of a 1500-barrel, three-ring, gun-barrel flow tank; a 750-barrel, three-ring settling tank of the same height; a 500-barrel, two-ring settling tank, and a battery of 500-barrel, one-ring tanks. The greater height of the receiving and settling tanks permits a gravity flow of oil through the series to the storage tanks, and mechanical separation during favorable weather conditions is very effective. It also is an easy matter to treat the oil during its flow from the receiving tank to storage tanks.

With this system of tank separation, oil from the wells flows to the top of a 15-inch vertical pipe flume placed on the outside of the 1500-barrel gun barrel. The flume acts as a kind of reservoir to prevent a few heavy producing wells from sending their flow direct to the tank. The incoming oil enters the bottom of the tank from the flume. The flow, which is mostly separated oil, leaves the gun barrel three feet from the top, and enters the bottom of the 750-barrel settling tank. The flow leaves this tank five feet from the top, and enters the bottom of the 500-barrel settling tank. It leaves this two-ring tank about five feet from the top and enters the top of the 500-barrel storage tanks. Thus by sending the flow of oil from bottom to top of three tanks, separation is effected. Water is drawn from the bottom of all three settling tanks, and runs by gravity to open pits nearby.

Skimming from a series of pits is a fairly successful practice in some parts of the field. The effect is the same as that obtained with a series of tanks. During hot weather it is possible to recover most of the oil from the first pit.

A view of the Hendrick field from the air shows the hun-



...Remains Profitable Field Despite a Large Water Production

dreds of pits and settling basins, and gives the observer an idea of the magnitude of the water problem. The surface of the field resembles a group of miniature lakes. Some of the sulphur lakes cover several acres, while the distance from one pit to another in a given series often is more than 1500 feet.

The sand near the surface takes the water readily, but the hard caliche formation found near the surface is almost impervious in spots. It is the usual custom to shoot the bottom of the pits with dynamite to increase the porosity of the soil. The dry hot climate is an aid to evaporation, and where enough pits are provided the absorption by the soil may become secondary to evaporation.

The isolated nature of the area gives considerable leeway in planning a water disposal system. Even when water leaves the last pit in a series, there is a good chance that the sand will absorb it before it causes trouble.

Low Cost

The cost of handling water on a number of leases is negligible. This contrasts sharply with a cost of more than 20 cents per barrel in a number of fields in congested areas. A cost of 20 cents per barrel for water disposal would represent a cost of more than $8.00 per barrel of oil recovered on a number of leases. The cost of handling and disposing of water on a number of leases probably is less than one cent per barrel. Since water production ranges from 20 to 60 barrels to each barrel of oil, it is obvious that the cost of water disposal must be held to a minimum. In producing a number of leases, it is necessary for the water virtually to take care of itself.

One well near the center of the field is flowing more than 3000 barrels of fluid daily, of which only 18 barrels is oil. Although the production of oil is less than two-thirds of one percent of the total, the well is being operated at a profit. The water and oil separate readily and evaporation takes care of the water.

A typical lease production for one day is 25,000 barrels of water and 600 barrels of oil. A few wells are producing pipe line oil on the pump, but all large flowing wells are showing a high percentage of water. The percentage of water in most of the wells shifts irregularly from day to day.

The natural flow of most wells is due to the great hydrostatic pressure of water. The flow is equivalent to an automatic flooding process, with a small percentage of oil being brought to the surface with each barrel of fluid. Some doubt exists as to the origin of this fairly constant water pressure, but it apparently is caused by the action of a great volume of water lying at a level higher than the producing formation.

The field embraces about 11,000 productive acres. Wells producing oil in commercial quantities total about 400, but a much larger number has been drilled. A steady loss in the number of producing wells has been recorded during the past three or four years. Few dry holes were completed in the field.

It has developed that the edge leases are the best producers. During the early history of the field, one major company regretted its action in obtaining what proved to be edge leases. Few large wells were completed on these edge leases, but they now are the best tracts in the field. In drawing large quantities of water toward the top of the structure, oil along the extreme edge of the field has been attracted slowly toward the inside leases. This gradual sweeping action has provided edge wells with a steady supply of oil that did not move rapidly even during the high pressure initial flowing period.

Oil and gas on top of the structure shifted rapidly from its position in the reservoir during the period of overproduction, while water fingered in and filled the producing formation. This development has changed some of the largest oil producers to the largest water producers.

In an effort to obtain a larger production of fluid, casing pumps have been installed on a large scale. These pumps do not differ radically in principle from smaller insert pumps, but they give a much larger volume of fluid through casing than can be obtained through tubing. In one well, the production with three-inch tubing and a conventional 2¼-inch pump was 1100 barrels of water and 18 barrels of

oil. Installation of an 8¼x5 casing pump increased production to 5235 barrels of water and 93 barrels of oil. Average production of 23 wells before installation of casing pumps was 38.4 barrels of oil and 1370 barrels of water. After installation of the larger pumps, average daily production was 87.8 barrels of oil and 2467 barrels of water.

The casing pump is not the solution to all field problems, however, and one company is contemplating use of more conventional pumps in four-inch tubing. It is conceded to be much less difficult to fish out parted rods in small tubing than in the larger sizes, and for this reason tubing will be used instead of casing.

The field at one time produced large quantities of gas, but gas production is now negligible. During the period of greatest gas waste, there were no Texas laws to check the flow of gas in flush fields.

The largest initial production of a well, when based on a one-hour flow test, was 98,000 barrels daily from Cranfill and Reynolds' Hendrick C-1. Many of the larger wells were produced at rates far above those accepted as the safe maximum, and there is little doubt that the almost wide-open flow attracted water much faster than would have been the case with more sensible production methods.

It was not unusual to complete wells flowing more than 15,000 barrels per day. The decline, however, was very rapid where no caution was exercised, and the largest producers soon started making high percentages of sulphur water with the oil. Many wells were pinched in to reduce water, and it was necessary to run tubing and place a large number of producers on the beam. Soon after going to water, a number of wells flowed more than 20,000 barrels of water to 50 barrels of oil. Only the fact that the oil and water were separated easily prevented abandonment of a number of wells soon after completion.

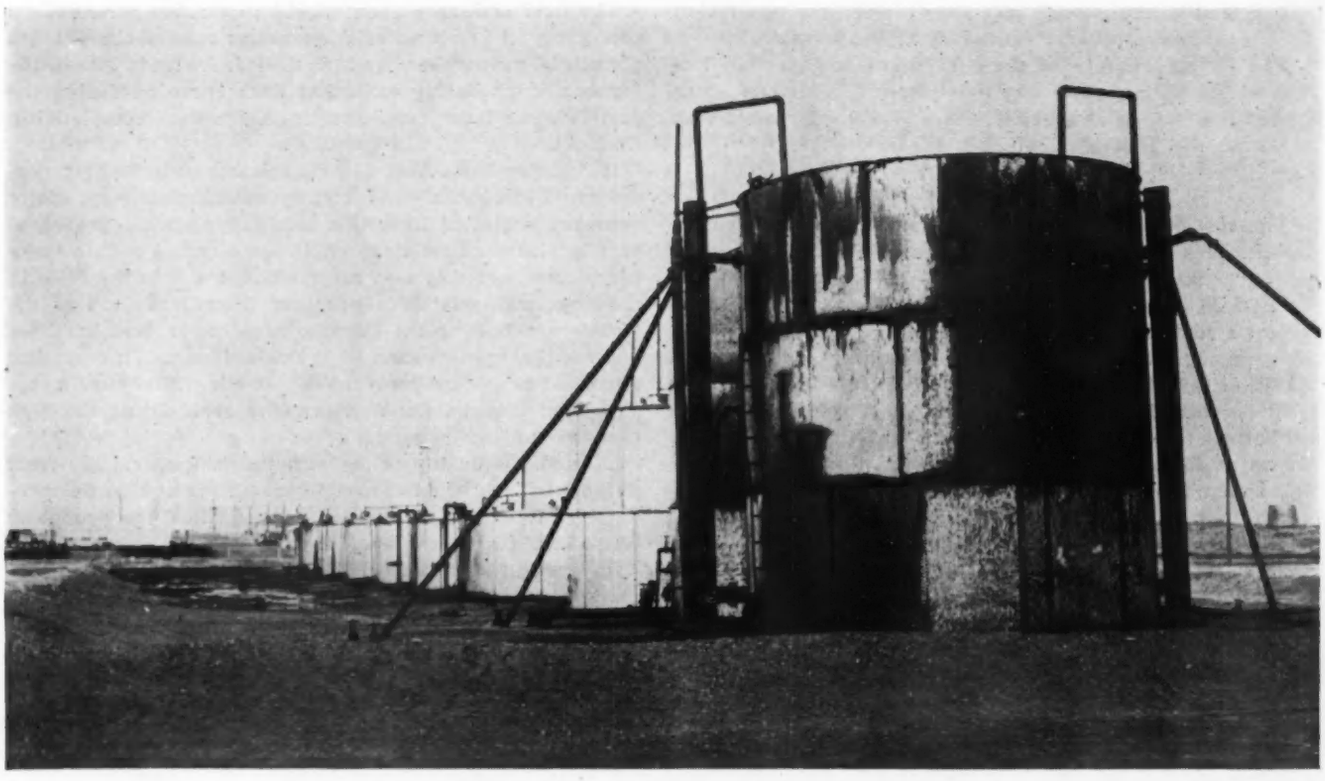
Production of the Hendrick field to January 1, 1935, was about 180,000,000 barrels. Although this is a high total recovery, there are many reasons to believe that the field now could have a potential many times its actual potential, had more conservative production practices been followed since the discovery in 1926. A good idea of the course of the field may be gained from a study of its production record during the early part of development. The rapid production decline also indicates lack of good production practices. Field production by years follows:

Year	Production
1926	5,178
1927	3,650,295
1928	57,746,889
1929	50,050,973
1930	26,236,830
1931	15,295,954
1932	10,742,061
1933	8,256,000
1934	7,685,850
Total	179,670,030

By way of both comparison and contrast, the Yates field, Pecos County, may be considered. This field was discovered at about the same time as Hendrick, and is roughly the same type of structure. The Yates pool has yielded more than 195,000,000 barrels of oil, yet still has a rated potential of more than 5,000,000 barrels daily. Yates operators checked themselves in time and prevented water encroachment by applying conservative production practices.

There is no way to determine what course the Hendrick field would have taken under similar treatment, but it is believed that if the 1928 and 1929 production had been held to less than half of that recorded, the present potential would be many times the actual figure. Some disagreement exists as to the part played by gas, but it generally is agreed that the energy possessed by the gas could have been used to good advantage in producing more oil than was obtained, and in preventing rapid encroachment of water.

A well arranged tank battery that is handling a large volume of water and a small percentage of oil



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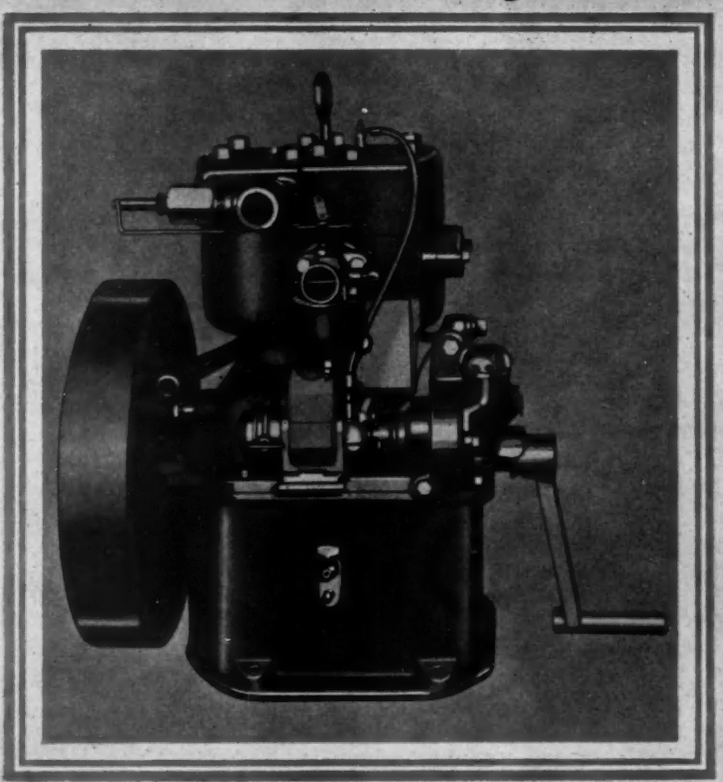

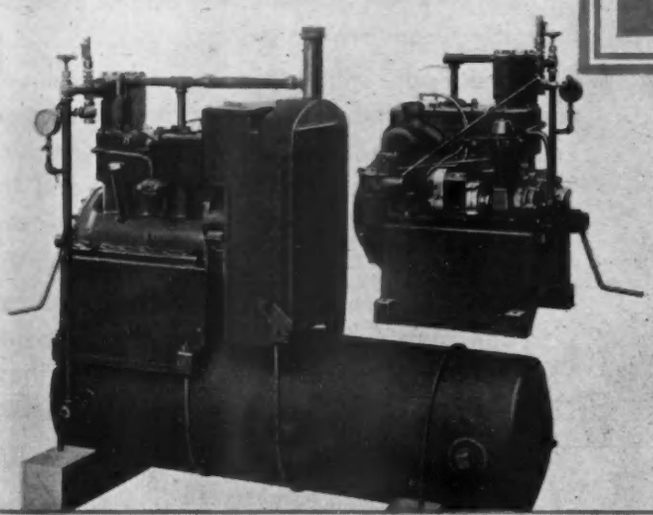

The Type FD-4 is a similar unit of somewhat more than twice the capacity. It has two power cylinders and two compressor cylinders operating two-stage all cast in the same block. It can be furnished with air receiver, cooling radiator and electric starter if they are desired.

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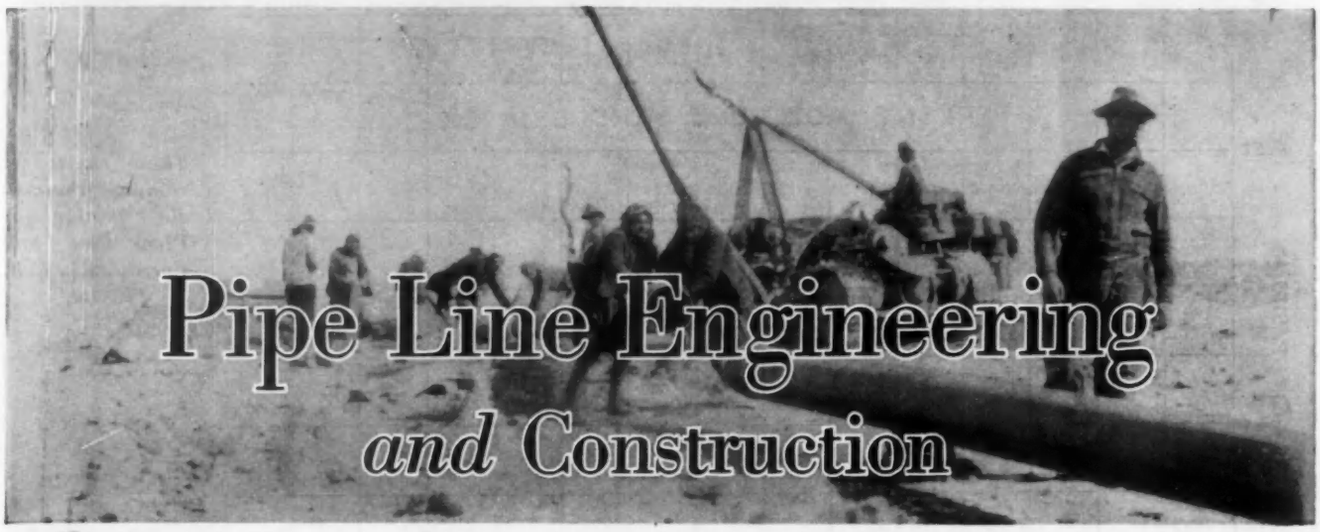


Testing for

Pipe Line Soil Corrosion

In California

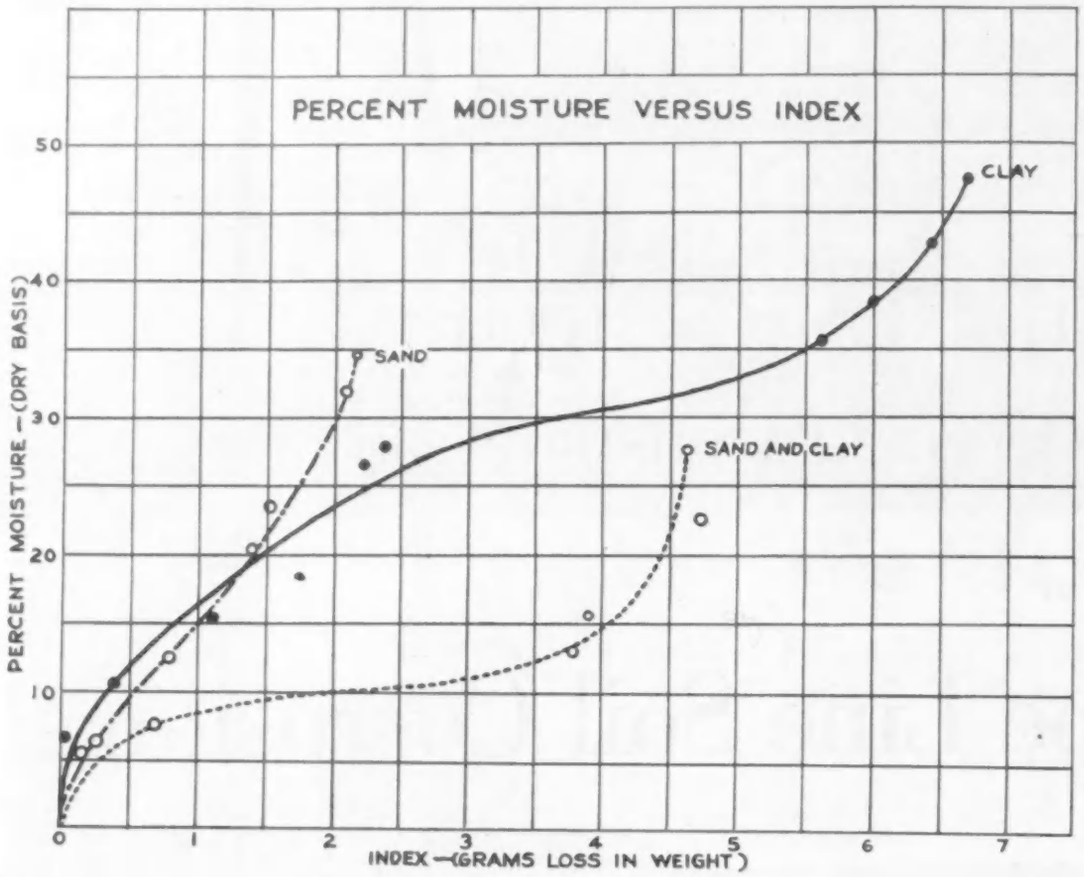
JOHN C. ALBRIGHT

THE external corrosion of pipe lines in southern California has been, and is yet, one of the major problems confronting the producer and distributor of crude petroleum and natural gas. Corrosive soils are quite prevalent, and the corrosivity varies widely within short distances.

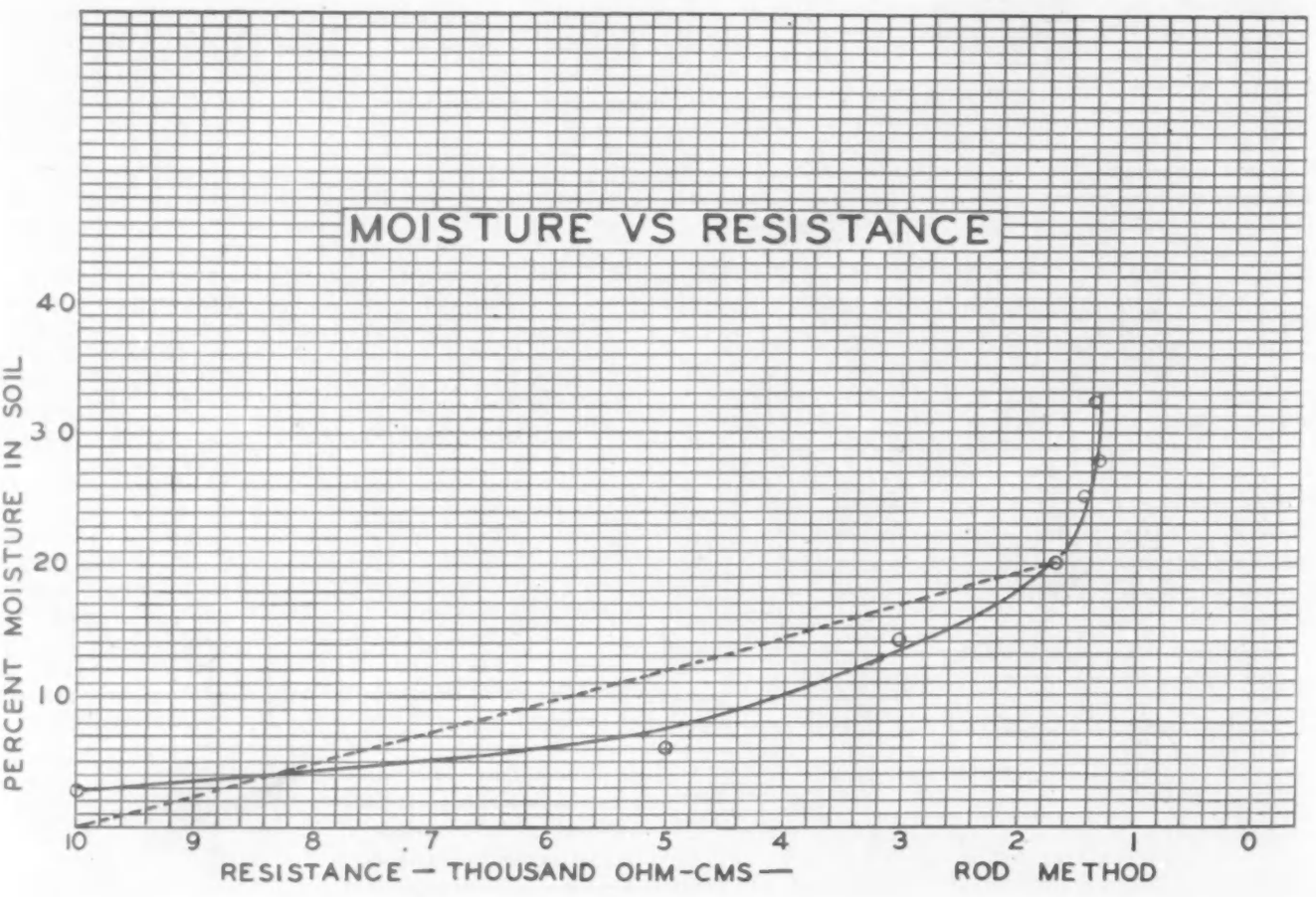
Generally speaking, the soils in the mountainous areas are less corrosive than those in the coastal plain for several reasons. One of which is that drainage in the rougher and more rolling country is excellent, as a rule, and the corrosive alkaline chemicals are dissolved and removed as the water flows to the lower levels. Sandy soils and those in which decomposed granite predominate do not effect the exterior surfaces of the pipe lines as severely as do the tightly packed clays and adobe soils.

In the coastal plain, a wide variety of soils are found, all which are more or less alkaline. The area as a whole is more corrosive to steel than the uplands, but the sandy and loosely packed soils do not cause as much difficulty as the harder soils. The water table in some portions of the Los Angeles Basin and other flat areas is quite close to the surface of the ground, which causes corrosion to be accelerated. This is found to be true in sections where the ground waters percolate through alkaline soils from their source, carrying large parts of minerals in solution. Because of these widely varying condi-

Making a soil corrosion test with the rod method



These charts accompany the article "Testing for Pipe Line Soil Corrosion in California."



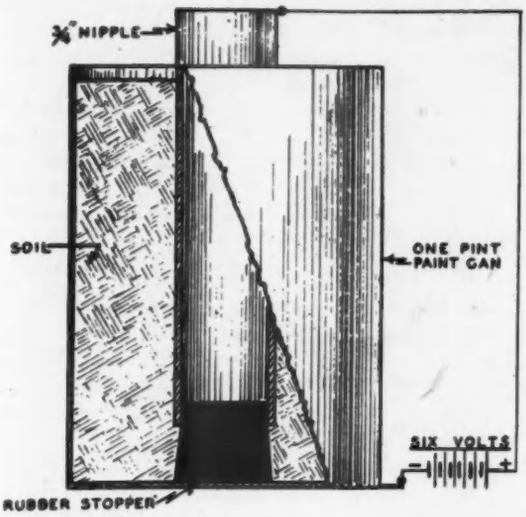


DIAGRAM OF SOIL TESTING APPARATUS

tions, some of the major pipe companies have carried on an extensive soil survey to determine the type of pipe line corrosion preventive best suited for protection from soil corrosion.

Two principal methods for the determination of soil corrosivity are used in Southern California. One of which is used extensively when making field tests along the pipe line right-of-way. The other is a laboratory method for soil corrosivity analysis.

The Field Method

The field or rod method shows results immediately. It consists of two rods, made of steel and sheathed with bakelite, excepting the lower points. One rod has a special handle containing two small flashlight dry cells. An earth resistance meter is attached to this rod at the handle, which measures directly the resistance of the soil at the depth the tips are buried. When set up for testing, a circuit is completed by connecting the top of each rod with a suitable insulated wire.

Two methods of conducting tests with this rod are used by Southern Counties Gas Company; one of which is termed the "dry test," and consists of measuring the resistivity of the soil with its normal moisture content at the time the test is made. Holes are made in the soil to the depth of the pipe line ditch with a common spud bar or an earth auger, and the rods then are pressed firmly into the bottom of the holes and the highest sustained reading recorded. The other, the "wet test," is made in exactly the same manner as the first, except that two ounces of water are poured into each hole and the rods inserted after the water has been allowed to stand approximately five minutes. The rods are inserted into the holes and readings taken.

The dry test gives the result that expresses the corrosive properties of the soil existing at the time of the test, while the wet test has been found to show the maximum corrosivity of the soil encountered at that particular location. It has been found unnecessary to wet the entire distance between the rods when making the wet test because the resistance in that area is negligible in comparison to the contact resistance at the point of the rods.

Southern Counties Gas Company finds that in investigating the corrosivity of soil by field tests several sources of error occur which its engineers have listed as follows:

1. Spotty soil.
2. Human element.
3. Irrigation.

When encountering spotty soils, soils of rapidly changeable resistivity within short distances, it has been found necessary to make tests within comparatively short intervals. That is, the tests are made within a few feet of each other when this type of soil is traversed. This difficulty is encountered in common with the rod and other types of soil analysis equipment, because a sample may be collected for the laboratory test at one spot and give a very different corrosion index from the one taken but a few feet away, the moisture content being the same in both cases.

The human element is minimized by Southern Counties Gas Company as much as possible by having a definite procedure outlined for making the tests. It has been found that the lowest readings are obtained with the rods when they are pressed firmly into the soil. If they are moved in a horizontal direction after being placed in the holes, the area of electrode contacting the soil is reduced and a false reading is obtained. The holes should be used for testing as soon as made, because if much time is consumed before the rods are inserted, loose top earth will fall into the holes which will change the soil resistivity.

Irrigation plays an important part in determining the corrosivity of the soil because pipe lines traverse sections of agricultural areas that are flooded during the growing season. This situation aggravates an already serious condition, and when pipe lines are constructed across these soils, certain types of protective coatings must be provided, which would not otherwise need be applied.

When making tests with the rod process to determine the corrosivity of soil, any number of crews may be employed at the same time, each, of course, recording the resistivity of the earth in which the rods have been inserted. The indicating needle of the resistance meter shows the ohms-centimeter resistance at the point of test. Table 1 shows how these results should be interpreted.

Laboratory Method

The laboratory method, commonly called the "Nipple and Can" system of soil surveying, is only used in the laboratory for testing the corrosivity of soils. Samples of the open ditch in which the pipe line is about to be laid, or from the depth at which the excavation is to be made, are gathered and bagged, identified properly and brought to the laboratory. Usually one quart samples are selected, one from each point to be tested,

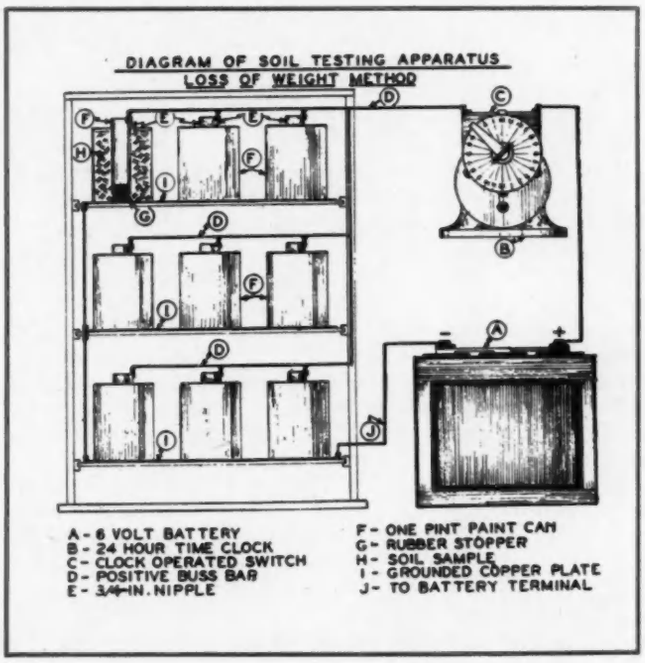


DIAGRAM OF SOIL TESTING APPARATUS
LOSS OF WEIGHT METHOD
A - 6 VOLT BATTERY
B - 24 HOUR TIME CLOCK
C - CLOCK OPERATED SWITCH
D - POSITIVE BUSS BAR
E - 3/4-IN. NIPPLE
F - ONE PINT PAINT CAN
G - RUBBER STOPPER
H - SOIL SAMPLE
I - GROUNDED COPPER PLATE
J - TO BATTERY TERMINAL

TABLE I

Ohms-Centimeter Resistance	Class of Soil	Pipe Protection Required	Life of Bare Pipe
10,000 to 6,000	Good	Little or none	25 years or more
6,000 to 4,500	Fair	Moderate	17 to 25 years
4,500 to 2,000	Bad	Heavy	10 to 17 years
2,000 to 0	Very Bad	Very Heavy	0 to 10 years.

TABLE II

Corrosion Index	Classification	Pipe Protection Required
Less than 1 gram loss	Good	Little or none
1 to 4 grams loss	Moderate	Moderate
Over 4 grams loss	Severe	Heavy

and put through a four mesh seive, after drying and grinding in mortar is necessary to reduce the larger lumps to finely divided ones. The sample is then placed in a container so that a sufficient amount of water, air saturated and distilled, can be added to thoroughly wet the soil without causing excess moisture to separate and collect on the surface as free water. Hard samples require more time to absorb their minimum amount of water, and if an excess is poured into the sample, some of the soluble salts may be lost due to the swelling of the soil or evolution of hydrogen gas.

The receptacles in which the tests are conducted are usually taken from a stock of one pint friction top paint cans with the rim removed. The pipe, to be tested with the soil for corrosivity, is a mild steel, standard three quarter-inch nipple, which is sand blasted to remove all surface accumulation of mill scale, rust and other matter, cleaned in benzine and one end numbered. The nipple is weighed accurately to the second decimal point in grams and a rubber stopper inserted in the unnumbered end. This may be a special stopper made for the purpose of these tests, or they may be common rubber corks available from any chemical supply house.

The test nipple is then placed in the prepared can and the space around it filled with the wetted soil sample to about 1/16-inch of the top and numbered end. The positive terminal of a six-volt battery is connected securely to the test nipple with adequate wiring and the negative terminal connected to the exterior of the can. Any convenient point may be selected to connect the negative terminal, but it is usually attached to a soldered connection placed on the lower rim. Either one sample may be run at a time, or a multiple may be placed on a convenient rack so that the work may be speeded up.

After 24 hours the current is disconnected, either through a manually operated switch or through a clock arrangement. The test nipple, or nipples, are removed from the can after which they are carefully cleaned to remove all attached soil, but exercising care that none of the metal surface is scraped away. They are then weighed separately and the loss in weight calculated by comparing the new weight and the weight after being put through the soil test. This loss in weight, which is a measure of the soil's corrosivity, is the corrosion index for the soil sample and is a measure of the soil's maximum corrosion hazard. Table II shows how these tests should be interpreted.

Moderate coating, as used when these tests are indicated, is designated as a fairly heavy coating of material plus a protective wrapper to permit handling without damage to the coating. The heavy protection consists of the moderate pipe line covering plus an asbestos wrapper after which another coating of material is applied.

All the accelerated laboratory tests measure the resistivity of the soil when it is saturated with water, while the field methods measure the resistivity under moisture conditions actually existing in the ground at the time of the test. Which of the two methods of determining the corrosivity of the soil used in Southern California is the more valuable in a pipe protection study is a matter of opinion, apparently. One, the rod method, is used exclusively by Southern Counties Gas Company and many of the other pipe line companies, while the "Nipple and Can" method is used exclusively by Los Angeles Gas & Electric Company. Both tests have yielded very good results.

Soil Data

Tests conducted by the Bureau of Standards indicate that either of the two methods give correct results for alkaline soils, such as are found in the western part of United States. The loss-in-weight method shows in addition to the corrosivity of the particular soil, the type of pitting to be expected when pipe is laid in the soil tested.

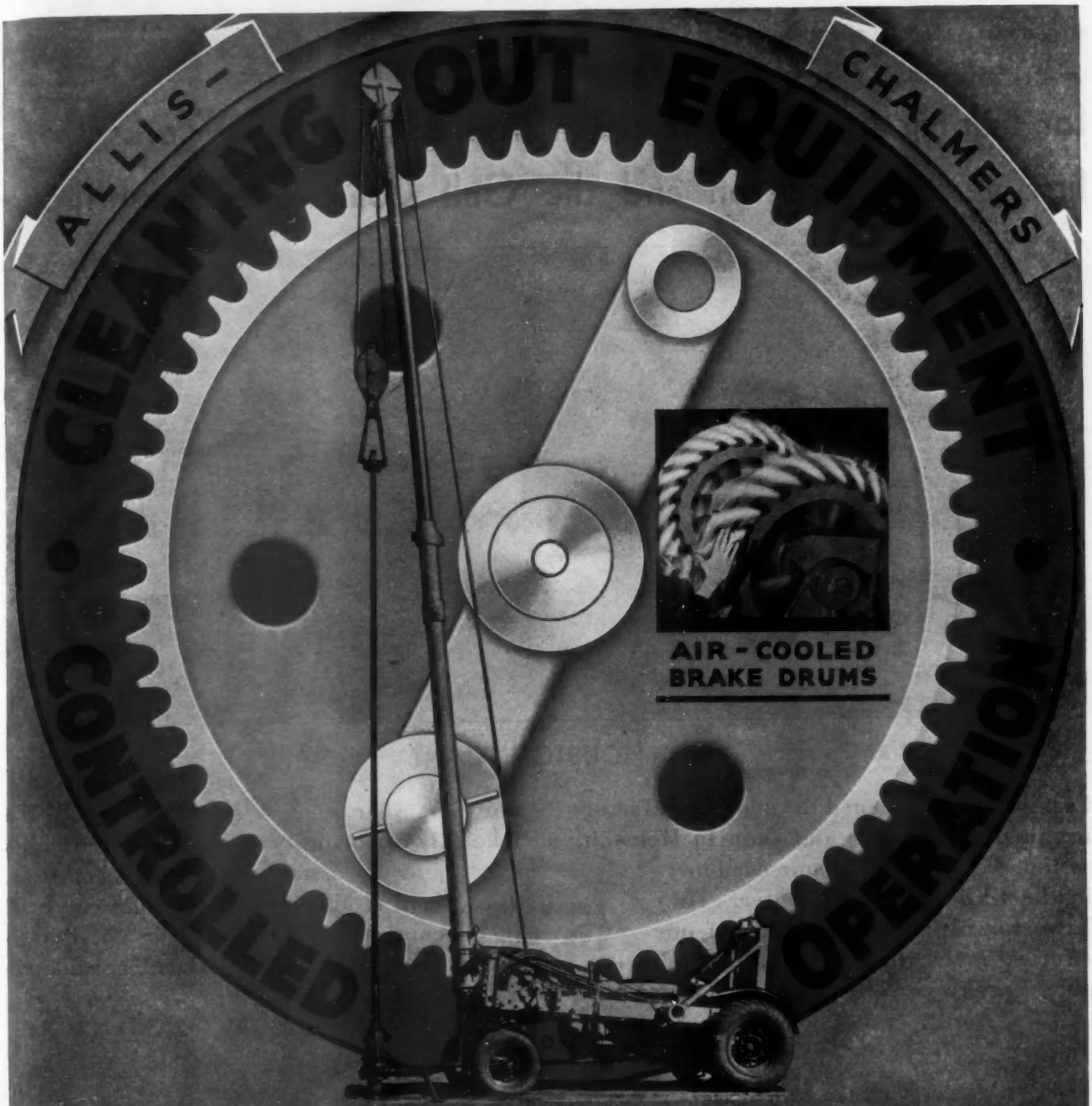
Both Southern Counties Gas Company and Los Angeles Gas & Electric Company have made extensive tests of the soils in which their pipe lines have been laid. They have correlated their data and prepared soil corrosivity maps from which information may readily be obtained when further extensions are made. Los Angeles Gas & Electric Company, who have distribution lines within the limits of the metropolitan area of Los Angeles, find that the corrosivity of the soils encountered are fairly constant, because the moisture content of the soil does not vary much during the year.

On the other hand, Southern Counties Gas Company, who have transportation pipe lines running from Santa Barbara to San Diego County to the south, and to San Bernardino in the east, have found that soil conditions fluctuate widely over these areas due mostly to the seasonal moisture in the ground. This company has divided their territory into eight districts, each of which is equipped to conduct tests for resistivity and corrosivity of the soil, and tests these districts regularly. Table III is a tabulation of 166 tests made.

TABLE III

DISTRICT	Number of Test Locations	Location Showing the True Corrosion Index at all times of the Year (Dry Tests)	Location Showing the True Corrosion Index only during the Wet Months (Dry Tests	Location Showing the True Corrosion Index only during the Dry Months (Dry Tests)
Santa Barbara..	16	1	9	1
Ventura.....	15	6	6	1
Santa Monica...	23	7	14	2
San Pedro.....	17	4	4	1
Whittier.....	14	3	6	0
Monrovia.....	15	8	4	0
Pomona.....	15	6	3	1
Orange County.	51	7	27	7
TOTALS...	166	42	73	13

DISTRICT	Number of Tests Locations	Locations Showing the True Corrosive Index by Chance only (No Definite Trend to Curves Dry Tests)	Locations Giving the True Corrosion Index When Wet Tests are made	Locations Which do Not give the True Corrosion Index Even When Wet Tests are made
Santa Barbara..	16	5	9	4
Ventura.....	15	2	14	1
Santa Monica...	23	0	22	1
San Pedro.....	17	8	15	2
Whittier.....	14	5	8	6
Monrovia.....	15	3	11	4
Pomona.....	15	5	10	5
Orange County.	51	10	34	13
TOTALS...	166	38	123	36



To obtain profitable production from old oil wells, an Allis-Chalmers, Cooper designed cleaning-out and portable pulling unit will give you faster action at a more economical cost and greater safety than any unit on the market. It is the only unit where the stroke of the tools can be as ACCURATELY CONTROLLED as can the action of standard cleaning-out tools.

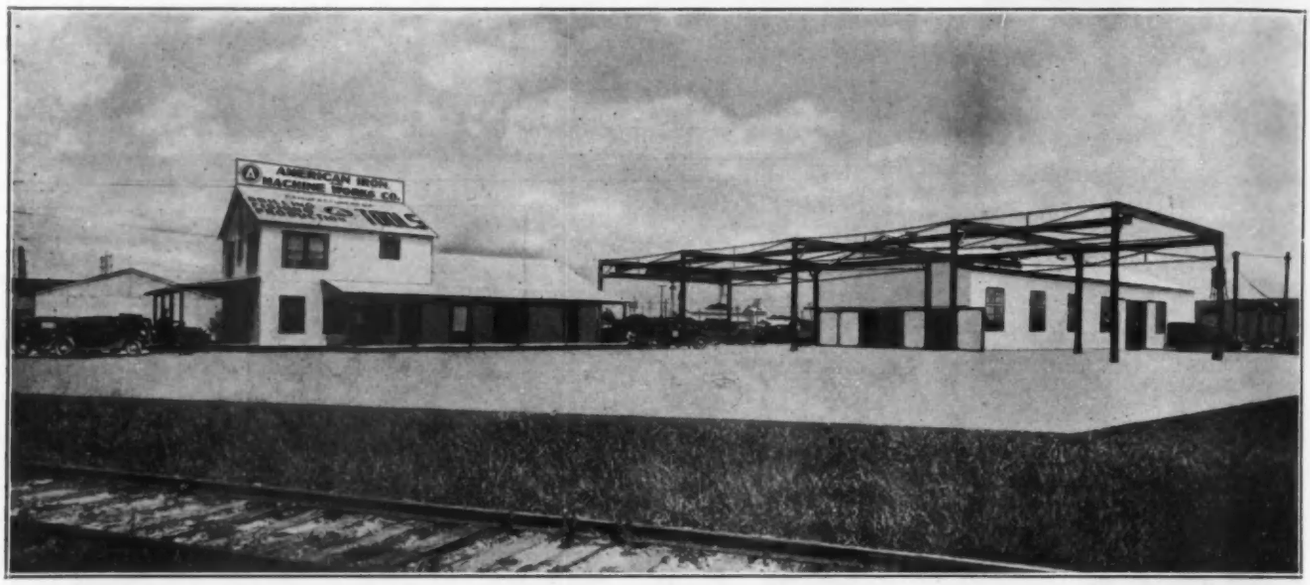
This cleaning-out unit, mounted on a high speed (30 miles per hour) Allis-Chalmers tractor, is equipped with two drums having eight line speeds — extra powerful brakes with air cooled drums — cleaning-out equipment and telescoping mast are both removable.

A complete line of Allis-Chalmers pulling equipment will be shown at the Oil Equipment and Engineering Exposition in Houston, April 8th to 13th, 1935.

FRED E. Cooper
OIL FIELD REPRESENTATIVE AND DEVELOPER OF OIL FIELD MACHINERY
211 S. LANSING TULSA, OKLAHOMA

WE THANK OUR CUSTOMERS

for helping us make American Iron & Machine Works Co.'s first year in Houston and the Gulf Coast a successful one



● HOUSTON PLANT

Last year, we opened a new manufacturing plant, warehouse and shop in Houston, so that we might serve our customers in the Gulf Coast area better. They have shown their appreciation of our efforts to give them quick, dependable service by helping us make our first year a most successful one. We take this opportunity to express our thanks and to assure them that American Iron & Machine Works Company will continue to do everything possible to merit their business and confidence in the future.

Open day and night—7 days a week

One of the reasons for the splendid record which American Iron & Machine Works Co. has made during their first year on the Gulf Coast is the fact that we can give you the kind of service you need, when you need it. Open day and night, seven days a week, we are equipped to take care of all kinds of oil field repairs.

AMERICAN
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Houston Oil Show Offers Industry Many Interesting Features

ALL preparations were completed for the opening of the Sixth Annual Oil Equipment & Engineering Exposition at Convention Hall, Houston, this morning, April 8. The show will continue through the week up to and including Saturday and presents to the visitors a complete display of the latest designs in tools and machinery together with a presentation of modern operating methods for drilling, production, refining, natural gasoline manufacture and pipe line work.

According to E. G. Lenzner, general manager of the exposition, this year's oil show carries further than ever before the aims toward making it both educational and entertaining. The combination of practical application and technical development is presented to as great an extent as possible to aid the oil man in using equipment most efficiently. A considerable number of the tools and machinery are in operation and many are being demonstrated to show their application under field conditions.

One spectacular demonstration will be the extinguishing of a gas fire by shooting it out with gelatin. A derrick will be built for this purpose and gas from a high-pressure main conducted to it and there set on fire. The methods used for removing debris from burning wells before the shot and the control of wells after shooting also will be shown.

Within the main exhibition building a well will be drilled with a portable rig to production at about 2000 feet. All necessary equipment for the operation will be in service on this job, including a blowout preventer which will be required because of the gas encountered at this depth.

One of the outstanding events will be the Second Annual Gulf Coast First Aid Contest, which will be put on daily during the week. Many oil company first aid teams will participate in this contest and will compete for prizes that will be awarded to the winners at a banquet to be given at the close of the contest. Some of the larger companies have as many as six teams entered and it is expected that this will be one of the most comprehensive events of its kind.

Through the cooperation of the various universities, the results of experimental work and the development of methods for applying equipment are presented. Here also are displayed instruments and equipment for laboratory work that can be applied to both field and plant operations. The results of the experimental work already completed is made available for study by the visitors.

Of an historical nature is the display of the first rotary equipment used for drilling oil wells. This can be compared with the most modern types that are shown at the exposition. Other exhibits of a similar nature not only point out the advancement made in oil tool design but others show the results of use on certain kinds of tools. Among these is a display of many kinds of bits with a new bit shown together with one of identical size and design that has made outstanding performance.

The trend of tool and machinery design is demonstrated by an exhibit devoted exclusively to new inventions. The equipment here displayed is entirely new and never yet marketed for general use. Many of the devices are working models that show their operation and application to actual working conditions. Others are completed designs that are ready for use but that have never been manufactured for sale.

In order to assist in making the equipment displays of greatest value to the visitors, prizes will be awarded for the best displays. These will be judged by a group of petroleum engineers who will base their decisions on the method in which the equipment is displayed as well as on the general appearance and beauty of the booth. Size will not be a factor and tool or machinery in operation or those being demonstrated will be given due credit for same.

Many events of different kinds that will appeal to various visitors are to be held during the exposition. For golfers, there will be a golf tournament held at Brae-Burn Country Club. Prizes will, of course, be awarded, and all oil equipment men are eligible. Entries will be taken at the Brae-Burn Country Club booth in the main building of the exposition.

The banquet this year will be held by the Houston Wildcat Committee on April 11. There will be plenty of entertainment at this event and all oil men and exhibitors' personnel are invited. Colonel R. C. Kuldell, Hughes Tool Company, is chairman of the ticket reservation committee.

The visiting ladies of all out-of-town oil men and manufacturers will be furnished free tickets with the compliments of the exposition to a bridge luncheon that will be given at Brae-Burn Country Club. In addition to this, many other trips and events have been scheduled for their entertainment while the show is in progress.

A trip through the channel has been provided by the Port of Houston for all exhibitors and visitors. This will be made on the Port Commissioner's launch, the R. J. Cummings, and includes a trip through the entire channel and to various other industrial sections. The Houston Real Estate Board has provided transportation for a return trip.

Equipment at Houston Show

ON the following pages will be found illustrated descriptions of producing and pipe line equipment on display at the Oil Equipment & Engineering Exposition, Houston, April 8-13. The information, which will serve as a handy reference for those wishing to refer to information on equipment displayed at the Houston exposition, has been made available through the cooperation of manufacturers, who have been requested to give descriptive data on their equipment exhibited.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

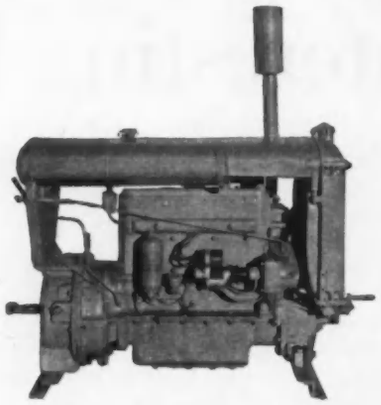
Fred E. Cooper

▪ *Allis-Chalmers Winches and Tractors*

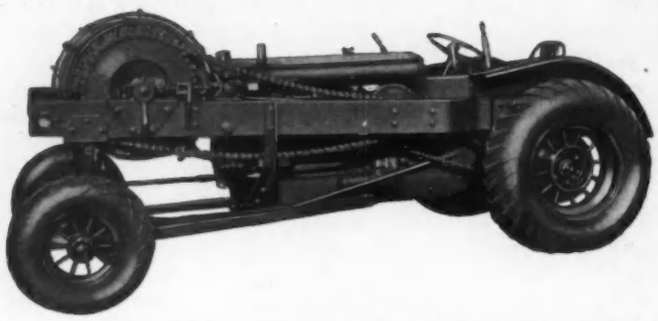
Fred E. Cooper, 211 South Lansing, Tulsa, Oklahoma, displays at the Oil Equipment and Engineering Exposition a complete line of Allis-Chalmers wheel-type winch tractors, winches and tractor engines.

▪ *Super Winch Tractors*

Several models and variations of "Super" winch tractors are being shown, all of which are equipped with engines that have removable cylinder sleeves and inserted valve seats. All of the winch tractors are available with



"M-40" Power Unit



Allis-Chalmers winch equipped tractor

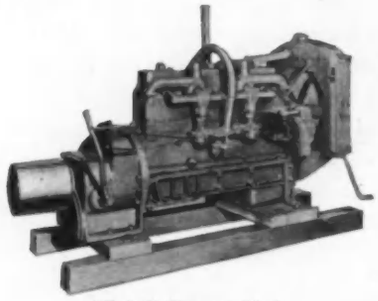
15 or 30 miles per hour road speed, if desired. All winch units have eight line speeds, and are equipped with special air cooled brakes.

Model E. Super winch tractor is powered with a four cylinder motor having a maximum line pull of 58,000 pounds and line speeds varying from 49 to 1133 feet per minute. Drum capacity is 8435 feet of half inch line.

Model UM is powered with a four cylinder motor and capable of 29,115 pounds line pull, and has the same line speed range and drum capacity as Model E.

▪ *Power Unit*

Allis-Chalmers "L-90" power unit is also shown by Fred E. Cooper. It is a six cylinder engine with a 5¼-inch bore and a 6½-inch stroke. Speed range of the motor is from 600 to 1050 r.p.m. It is also available as an oil engine.



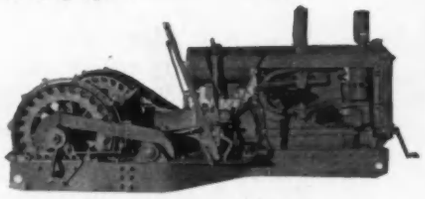
"L-90" Power Unit

Another power unit on display at Fred E. Cooper's booths is the Allis-Chalmers "E-60", a four cylinder engine with a bore of 4¾, 5 or 5¼-inch bore and a stroke of 6½ inches. Motor operating speed is the same as that of the "L-90" model. It, too, is available as an oil engine, if desired.

The "M-40" power unit displayed is a somewhat faster motor than the above two models. It has four cylinders, a 4⅜-inch bore and a five-inch stroke. The operating speed range is from 600 to 1400 r.p.m.

▪ *Skid Winches*

Several skid winches are on display, including models "UE", "AC-6", and "UM4". Allis-Chalmers double drum skid winch, available in "UE", "UM", or A.C. Rumeley 6 power units, also is displayed.



Allis-Chalmers "UE" Skid Winch

The "UE" skid winch has a four cylinder motor and a maximum line pull of 58,000 pounds, with line speeds from 49 to 1133 feet per minute. Drum capacity with a 48-inch drum is 14,000 feet, with a 36-inch drum, 10,500 feet, both based on half-inch line.

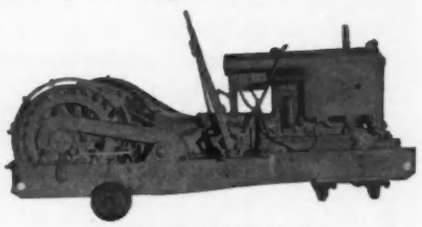
▪ *Double Drum Skid*

This winch is available in three power units described above. Using half-inch line, capacity of the front drum is 10,500 feet, and that of the rear drum is 8435 feet of line. The front drum mechanism is the same as that of the skid winch. Rear drum mechanism is the same as that of a tractor unit.

Double Drum Skid Winch

▪ *"UM—4" Skid Winch*

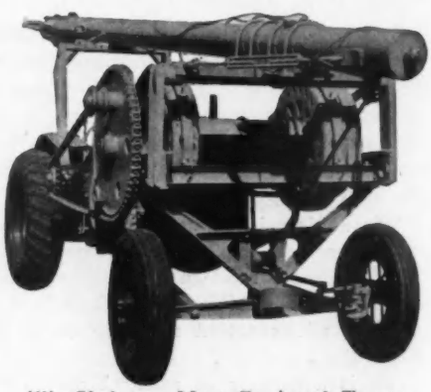
This skid winch has a four cylinder engine with a bore of 4⅜ inches and a stroke of five inches. The line pull is rated at 29,115 pounds, and the line speeds range from 49 to 1133 feet



"UM-4" Skid Winch

per minute. Drum capacity is 10,500 feet of half-inch line.

Allis-Chalmers Super-Winch tractors, described above, can be equipped with



Allis-Chalmers Mast Equipped Tractor

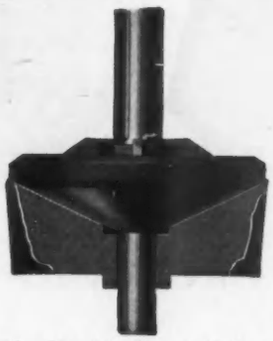
telescope mast which can be expanded to 39 feet in length. It can be raised or lowered in less than one minute and can be removed from the tractor in five minutes, the exhibitors state.

MacClatchie Manufacturing Company

MacClatchie Manufacturing Company, Compton, California and Houston, Texas, is exhibiting a complete line of MacClatchie "Quality" Products.

▪ *Mud Pump Valve*

The MacClatchie valve is made by a new forging method which makes the valves lighter but stronger, and the steel in the seats has been changed to



MacClatchie Pump Valves

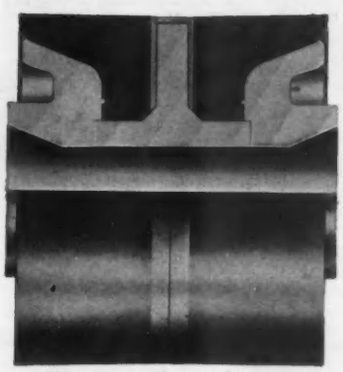
insure longer wearing qualities under hard usage.

The stream-line cross bar of the seat takes the entire blow, with the rubber insert providing the fluid-tight seal. The insert may be tightened after it has become worn by adjusting the washer, and when worn out on one side may be reversed for additional wear.

▪ *Wearever Mud Pump Piston*

The new model MacClatchie Piston has brass reinforced rubbers, but the end plates have been improved to increase the wearing qualities of the piston. The manufacturers claim a revolutionary increase in the wearing qualities of the piston.

The piston is renewed simply by installing new rubbers—the cost of which is less than half the cost of the original piston. The rubbers are of the cup type and respond instantly to impulse with their lips sealing against the cylinder wall on the pressure stroke. End plates form a backing, preventing distortion of the sealing lips on the suction stroke.



Wearever Pump Pistons

Each rubber cup is molded to a brass reinforcing plate, and when the piston is assembled the rubbers overlie the center spool and the end plates, so that nothing but rubber and narrow rings of soft brass contact the liner surface.

▪ *Piston Rod*

MacClatchie piston rods are of special ball-race steel-hardened and ground—with MacClatchie special taper, or with any desired taper or universal end.

The special tapered rod is universal, but has a rod nut of such taper and so designed as to automatically tighten on the rod threads and thus insure a firm grip on the piston and also provide an effective fluid seal and proper metal contact to withstand hard usage encountered in high pressure drilling. The construction is also such as to permit the rod nut being readily loosened when desired, thereby eliminating difficulty in removing the piston from the rod.

▪ *Money-Saver Pump Liner*

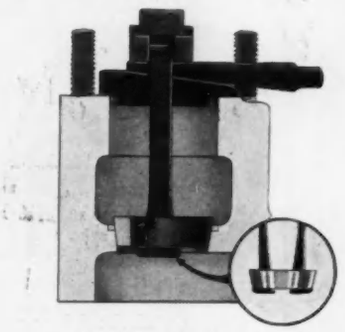
Right: Deluxe Valve Seat Puller

Left: Money-Saver Pump Liner

This liner is of special alloy seamless steel tubing and is quickly and economically replaced when worn. A detachable gland which is subject to no wear is slipped onto the liner and cooperates with an integral collar of the liner for clamping the liner in the pump cylinder, and a rubber packing ring is mounted on the liner to pack-off between the liner and the cylinder wall.

▪ *Wedge Type Valve Seat Puller*

This is an inexpensive puller for use with all types of valve seats. It is made of heat-treated steel castings and



MacClatchie Seat Puller

readily installed in the pump as shown in the illustration. The top wedge is driven in with a sledge hammer, so as to pull the tightest seats by two or three blows on the wedge.

▪ *Deluxe Type Valve Seat Puller*

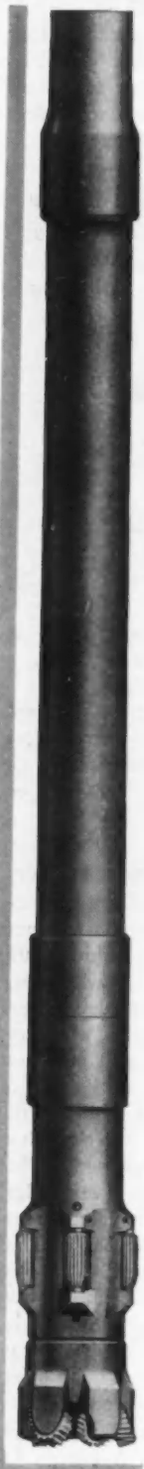
This puller is for pulling cross-bar valve seats. The adjusting nut by taking up all slack permits use of a wedge of very slight taper which exerts a powerful pull or jar upon the valve seat. The puller straddles the valve seat cross bar and is turned so as to hook under the bar. The nut is screwed down tight, with the top wedge withdrawn, and the top wedge is then driven in with a sledge hammer.

▪ *Pump Liner Puller*

MacClatchie's liner puller is of simple construction and is built to pull stubborn liners. Once the slips are in

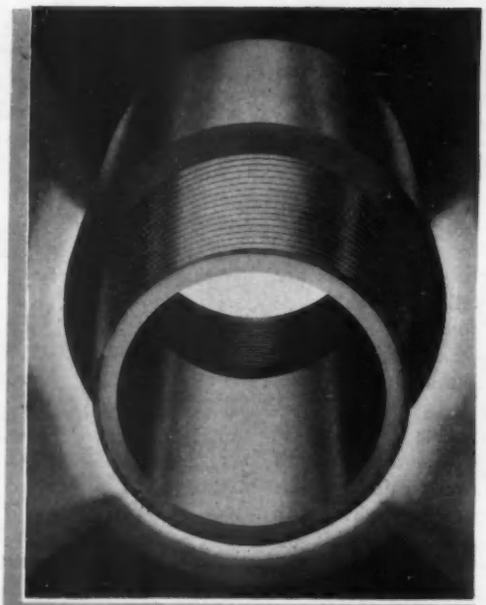
ON THE FIRING LINE OF

FOR OUTSTANDING RESULTS,



REED

Hard Formation Core Drills with Reamer

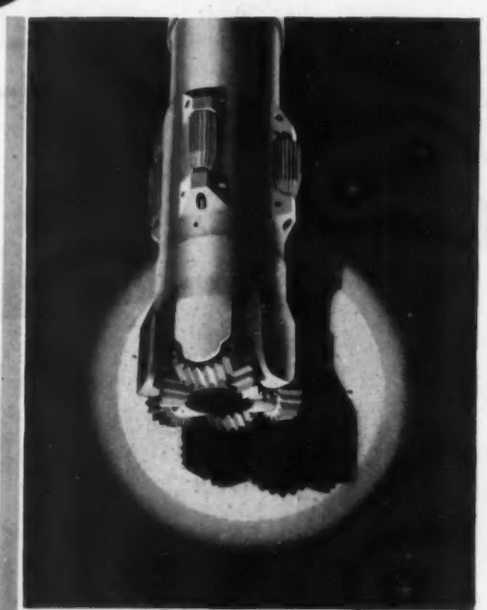


REED

FULL HOLE TOOL JOINTS

RE

AN INVITATION TO VISITING OIL OPERATORS. See a complete display of Reed Tools in the lobby of our main office and go with us through the plant and see how



REED

MODEL "B" CORE DRILLS

REED

WIRE LINE (HEAVING SHALE) COLLAPSIBLE BLADE DRILLING-CORING BITS

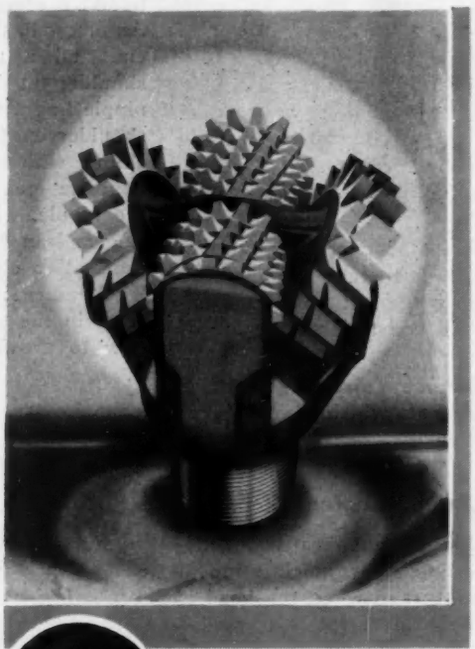
WHEREVER ★ THERE ★ IS

THE WORLD'S OIL FRONT

PROGRESSIVENESS, DEPENDABILITY

EED

these tools are made » » » Phone Wayside 3121 and we will send a car for you. Or drive out to our plant opposite the 6600 block on Navigation Boulevard.

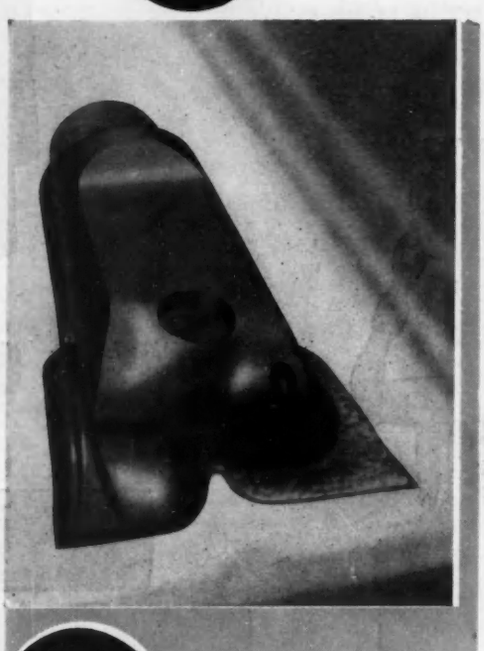


REED

ROCK BITS
ROLLER BEARING

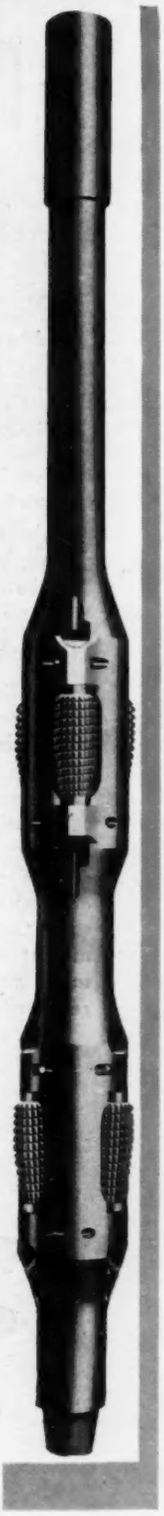
REED

B-R WIRE LINE
DRILLING-
CORING BITS



REED

REPLACEABLE
BLADE FISH
TAIL BITS



REED

6-Contact
Reamers

ROTARY • DRILLING

MacClatchie Pump Liner Puller

position, all that is necessary to remove the liner is to turn the nut. The ball-race under the nut eliminates excessive friction and adds to the life of the tool.

This puller may also be used for pulling valve seats which have no center obstruction.

▪ *Quick Change Cement Head*

MacClatchie cement heads on display are designed for quick removal and installation; and when the head is in place a fluid-tight seal is assured—the greater the pressure within the casing the tighter the engagement of the slips and rubber. The head is not rotated when inserting or removing—only the nut on the mandrel being turned. The head may thus be removed without disconnecting the cement or mud lines; and may also be removed and replaced with the casing in motion, thereby eliminating setting slips and removing elevators, and thus being particularly handy for circulating or "washing in" casing.

MacClatchie Cement Head

▪ *Quick Union*

MacClatchie's quick union is particularly designed for well cementing. An elbow has an internal thread at one end and a precision-ground internal shoulder at its opposite end, and a nipple has a precision-ground external shoulder engaging the shoulder of the elbow, with an external thread at its opposite end. A ring is mounted on the nipple, with a bail pivoted to the ring and an eye bolt threaded through the bail to clamp against the elbow. The external shoulder of the nipple seats in the shouldered end of the elbow to provide a tight seal, with no threads at the connection to become cross-threaded and hold up operations. The union fits between one hose and another, between two pipes, or between a hose and a pipe.

MacClatchie Quick Union

▪ *Flow Nipple—Non-Adjustable*

The manufacturer claims this nipple lasts indefinitely and the beans are interchangeable for any size flow nipple and can be re-drilled, making it possible to use the same bean as the flow is stepped-up.

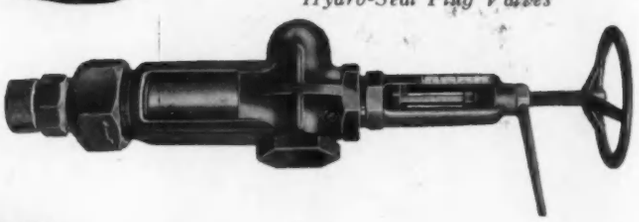
▪ *Flow Nipple—Adjustable*

The flow orifice is adjusted by screwing a needle point into or out of a venturi tube. The venturi tube when worn is readily replaced by retracting the adjusting needle and loosening the locking nut.

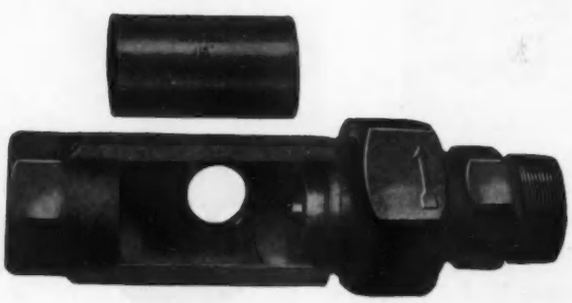
▪ *"Hydro-Seal" Plug Valve*

Of particular interest in the MacClatchie exhibit is the "Hydro-Seal"

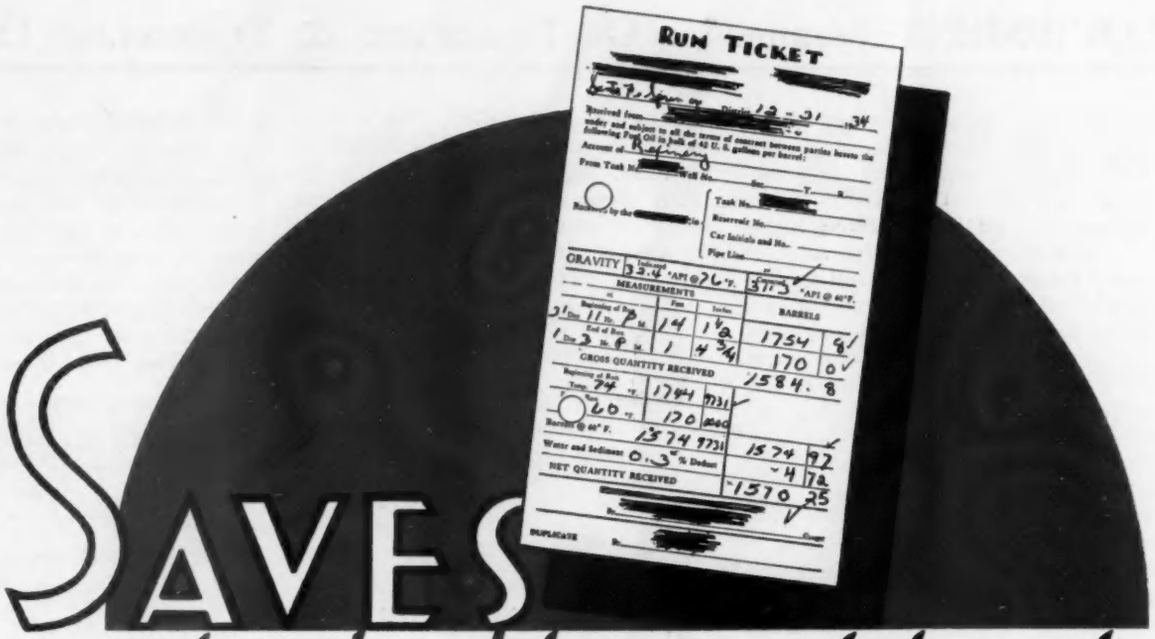
Hydro-Seal Plug Valves



Right: MacClatchie Adjustable Flow Nipple



Left: MacClatchie Non-Adjustable Flow Nipple



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Minimum EVAPORATION and VOLUME LOSSES

plug valve which has been introduced during the past year.

The "Hydro-Seal" feature is the undercut grooves in the surface of the plug adjacent its ends, forming metal lips which are expanded by pressure of a lubricant so as to tightly seal against the wall of the body. No cup leathers nor compressible packing is employed and only the thin edges of the metal lips engage the wall of the body. The bearing surface between the plug and body is lubricated, with the lubricant always shut-off from the line fluid for economizing in grease. The metal lips are capable of only such limited expansion as will seal-off at the ends of the plug if the plug is properly seated to seal-off around the plug. If the plug is improperly seated, permitting invisible leakage around the plug, it will also leak at its ends with such leakage visible at the stem.

"Hydro-Seal" plug valves are made in sizes from ½-inch to 20 inches—250 to 2000 pounds working pressure, with screw, flange or union ends. They are also made with brass bodies and bronze plugs for use with acids, etc, and can be furnished with full hole opening for use in Christmas tree assemblies and with special end connections for use between the swivel and hose of a rotary drilling rig.

▪ *Economy Straight Reamer and Hole Guide*

This is a combination reamer and hole guide. It has a slicing cutting action eliminating undue torque on the drill pipe. The cutter does not rotate on the body but turns with the body so that there is wear only at the blades of the large diameter cutter.

Reamer and Hole Guide

Cutting blades are arranged in three tiers, each making one-third of the cut during each revolution, with the cut made by each tier slightly vertically overlapping the cut made by the preceding tier to insure the entire bore being cut to gauge. The cutter is replaced when worn by simply disconnecting the sub and sliding the worn cutter off the body and replacing with a new cutter which is held against rotation on the body by three driving lugs which seat in grooves formed in the body.

The "Economy" reamers may be run singly or in tandem, above or below the drill collar.

▪ *Rotary Underreamer*

MacClatchie's underreamer is designed for simplicity of construction and operation—fast cutting action—and adequate circulation at the cutters.

Four streams of circulation in back of each cutter accomplish lubricating, cooling, and washing.

Expanding and contracting the cutters is automatic, depending upon rotation of the drill string and not upon pumps pressure, springs or casing shoe.

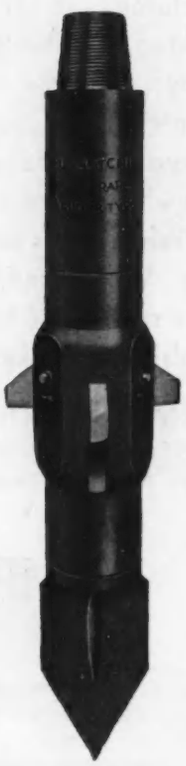
MacClatchie Underreamer

▪ *Hydraulic Wall Scraper*

In the MacClatchie wall scraper three point cutting contact tends to avoid gyrating.

Cutters are expanded by hydraulic pressure and are spring retracted for positive expansion of the cutters when the tool is in use and positive retraction of the cutters when coming out of the hole.

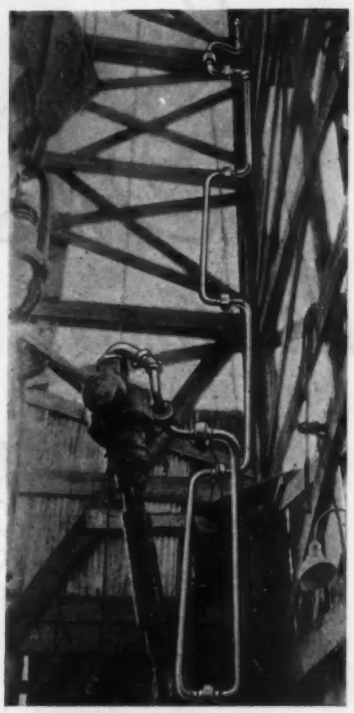
A circulation passage opens through the pilot bit to circulate the cuttings upwardly and away from the cutters, and circulation openings are provided at each cutter for cooling the cutters and washing the formation.



MacClatchie Hydraulic Well Scraper

▪ *All Steel Rotary Hose*

Maximum flexibility under high pressure—unobstructed flow with gradual hydraulic bends and no sharp turn-leak-proof construction—and convenience of control—are features claimed for the MacClatchie Hose. The unions for the lengths of hydraulic steel pipe have hardened steel ball-bearings and two packing rings in each union—one packing ring between the fluid and the ball race tightening under pressure of the fluid, and the other packing ring sealing the lubricant which is forced into the ball chamber.



MacClatchie Hose

▪ *Rotating Blowout Preventer*

The MacClatchie blowout preventer displayed is designed for drilling under mud or gas pressure with ease and safety, and is of sturdy construction to withstand maximum pressure and hard usage.

A body is mounted on the well casing and a packer is removably mounted on the kelly for reception in the body, and is held in place by locking dogs which are operated from the derrick floor. The packer includes a stationary outer shell and a swivel which is journaled in the outer shell on anti-friction bearings. The swivel rotates with the kelly, and packing which rotates with the swivel seals off between the kelly and the swivel and between the swivel and the outer shell of the packer. The packing idles in its grooves until pres-

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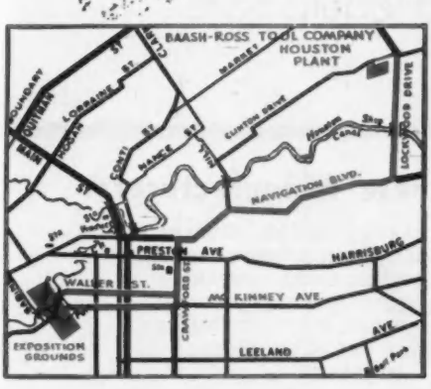

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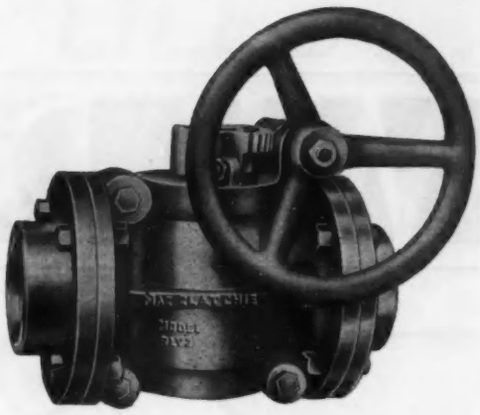
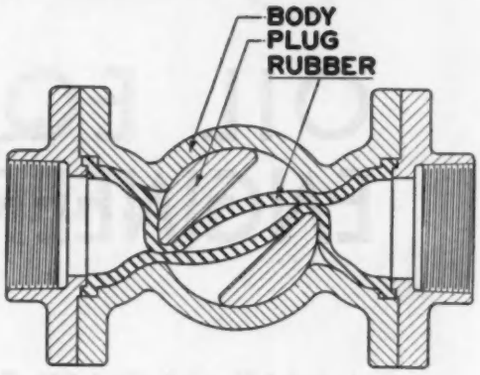
Left: MacClatchie Rotating Blowout Preventer





Right: MacClatchie Acid Valve

sure is encountered. Then the packing is automatically expanded to provide a tight seal, the packing being constructed on the cup principle so as to tighten in accordance with the pressure. The design is compact, the height of the large sizes being approximately 24 inches.

▪ *Acid Valve*

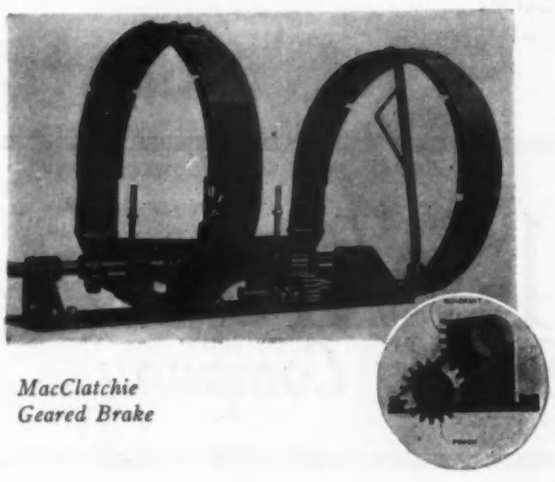
This valve is exhibited for the first time. A rubber liner protects all metal surfaces of the valve against contact with the flow—adapting the valve for use with acid or any fluid which attacks metal. The body of the valve is longitudinally split and detachably secured in assembled relation, permitting ready replacement of the rubber liner. The rubber liner extends through a transverse opening in a rotatable plug; and turning the plug in one direction twists and squeezes the liner to shut-off its bore and provide a tight seal at each end of the transverse opening in the plug, while turning the plug in the opposite direction aligns its transverse opening with the flow so that the liner is free to resume its normal position with open bore. The plug is rotated by a worm gear for automatically holding it in any position to which it is turned, so that the rubber liner may be squeezed to the degree necessary to provide the desired seal.

▪ *Geared Brake*

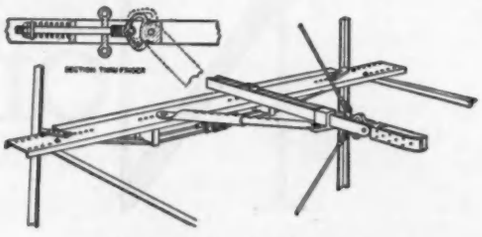
The gearing of the brake on display affords double leverage for handling heavy loads with ease and safety. The gearing compounds against dangerous "kick-back" and provides power to operate the brake bands. The brake bands completely surround the drum and are extra heavy to handle long strings of pipe.

▪ *Fingerboard*

This fingerboard works automatically, MacClatchie Manufacturing Company claims. If struck by the blocks from either above or below, the end of the finger automatically swings so that the blocks may pass; and the finger then automatically returns to its normal position.

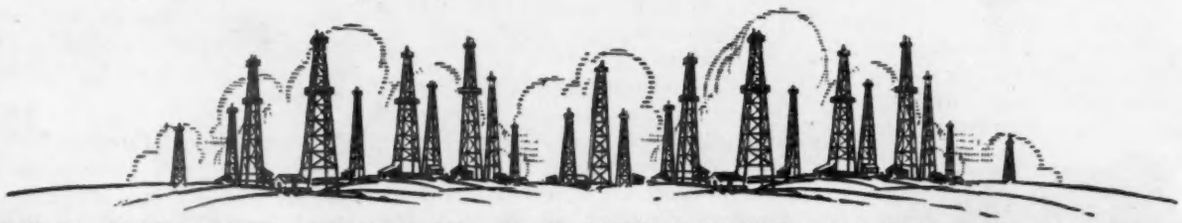


MacClatchie Geared Brake

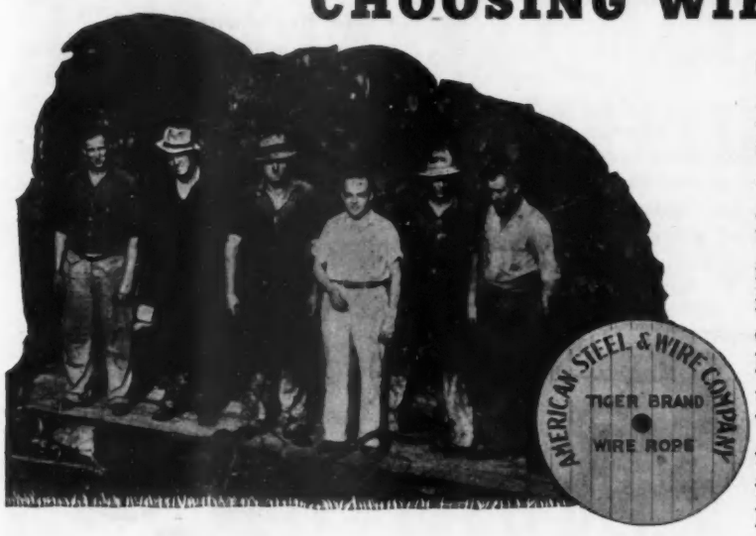


MacClatchie Fingerboard

Horses ARE PICKED *on Past Performance*



YOU CAN'T BEAT PAST PERFORMANCE IN CHOOSING WIRE LINES



TAKE, for example, the experience of Mr. J. T. Akers, of Akers Brothers, Drilling Contractors at Owensboro, Kentucky. Some time ago Mr. Akers purchased 1600 feet of American Steel & Wire Company Tiger Brand Wire Lines—7/8" diameter 6 x 19 left lay. With it he drilled a total of 12,300 ft. of hole, used it to clean and swab 6 wells for a total of 180 days—and is now using it as a pumping line. Here is just one of the countless instances of unusual service that users of Tiger Brand Wire Lines are receiving. It will pay you well to capitalize on their experience—to save time, trouble and money by specifying Tiger Brand on your next order.

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EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Baldwin-Duckworth Chain Corporation and George J. Fix Company

▪ ***Chains and Couplings***

Baldwin-Duckworth Chain Corporation, Worcester, Massachusetts, and Springfield, Illinois, and George J. Fix Company, Dallas, Texas, are exhibiting in Booths 534-536.

This exhibit consists of Baldwin Super-Service straight-side bar oil-well chain, standard series offset type oil-well chain, industrial roller chains for power transmission and conveying purposes, steel replacement series heavy-duty roller chains, and Baldwin patented flexible couplings.

Baldwin-Duckworth Chain

Baldwin is featuring the new internal ground bushings for the oil-well super-service chains. Baldwin bushings always have been ground externally, and now the addition of internal grinding permits holding to accuracies within two ten thousandths of an inch. This extreme precision of construction gives added chain life.

Baldwin-Duckworth's Flexible Coupling is being demonstrated, showing its real flexibility. These couplings do not secure flexibility through "easy" or "sloppy" fits. Baldwin-Duckworth's design makes a casing unnecessary. The manufacturer says that permanent shaft deflection up to three degrees can be handled without undue strains.

Spang, Chalfant & Company, Inc.

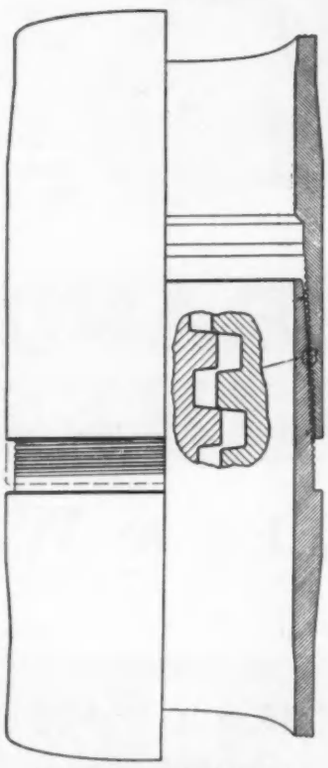
▪ ***Extreme Line Casing Joint***

Spang, Chalfant & Company, Inc. of Pittsburgh, Pa., has on exhibit a new high-strength oil well casing joint, designed to meet changing conditions in drilling operations, particularly the tendency toward deeper wells.

With this new joint, longer casing strings may be run with safety and with more clearance between strings. While the usual threaded and coupled joint is exceeded in strength and reduced in diameter, all desirable features are retained and many other advantages, particularly ease and speed of running, are inherent in the new design.

This new Extreme Line Casing is practically self stabbing and cannot be cross threaded, requiring less spinning and tonging. The pressure seal is protected by extending reinforcing ring and the casing can be broken out and re-run with no galling and will be tight after repeated make-ups.

The stream lining at the joint tends toward less friction in running in and out of hole, requires less pressure, after setting, to "break circulation," and provides smoother flow of cement and, therefore, greater certainty of a good job of cementing.



Extreme Line Casing Joint

Fisher Governor Company

▪ ***Automatic Controls***

Fisher Governor Company, Marshalltown, Iowa, displays at the Oil Equipment & Engineering Exposition a complete line of automatic controls, stressing particularly the operation and sectional views of pilot controls for pressure regulation and liquid level controllers.

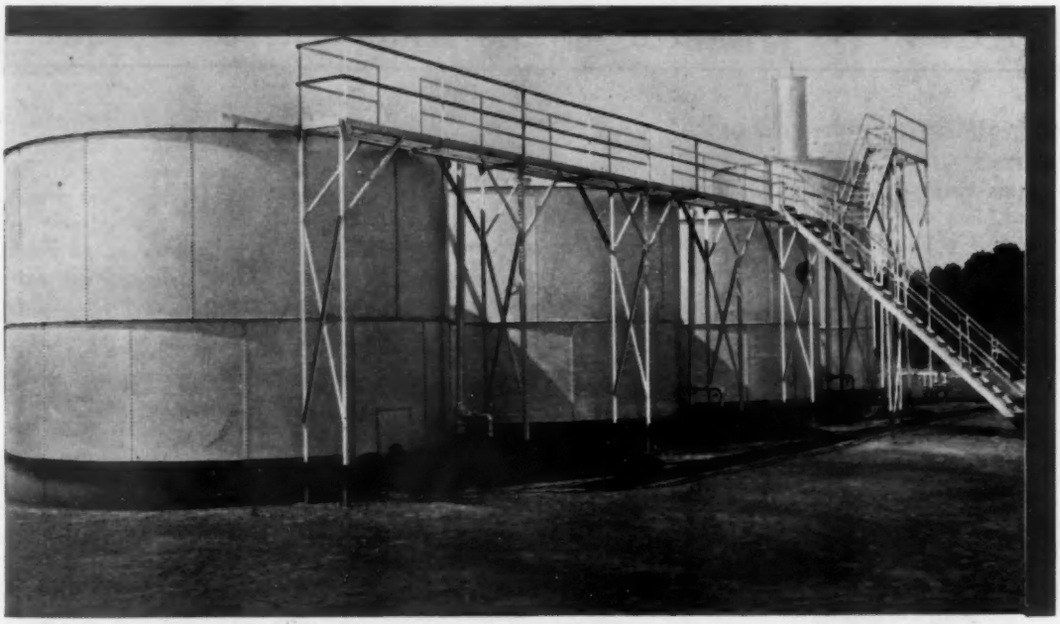
▪ ***Liquid Level Controller***

One of the new items in the exhibit is the Fisher Type No. 235-C liquid level controller, including the drawn steel float cage and the new Type 779-K full floating valve.

▪ ***Cycle Regulator***

Type No. 4655 Fisher cycle regulator is an intermittent flow controller developed especially for controlling the input high pressure gas to oil wells being flowed with intermittent gas lift. The main valve consists of a single steel body, sizes one-inch to two-inch, inclusive, for pressure up to 1000 pounds. Its diaphram is controlled and actuated by a clock, cam, and pilot valve. The clock and pilot mechanism are mounted as an integral part of the upper diaphram casing. Weather-proof cover is removed easily to allow inspection. The 24-hour clock is wound through a plugged opening in the cover. Cam notches that govern the frequency of the input gas are cut on the instrument after the installation is made.

Fisher Cycle Regulator



Columbian Bolted Steel Tanks being used in a novel way in the Conroe Field. (See below)

HERE'S HOW Columbian HELPS TO SOLVE OPERATING PROBLEMS

★ **Columbian's leadership is not only the result of being the world's largest fabricator of bolted steel tanks. Columbian also is famed for their ability to aid in solving storage and operating problems by building tanks to exactly meet specific requirements. The photo above shows Columbian tanks being used for a novel system for settling out salt water in the Conroe field.**

OTHER REASONS WHY COLUMBIAN DOMINATES THE BOLTED TANK INDUSTRY!

- **Columbian Bolted Steel Tanks give you the advantage of unusual speed of erection and facility of dismantling, removal and re-erection.**
- **Precision built of selected copper bearing steel. Every section is formed, flanged and punched on enormous precision machinery to fit perfectly.**
- **Self-supporting deck of interchangeable pre-shaped segments — the strongest deck available.**
- **Standard sizes of tanks on hand ready to ship on 30 minutes notice.**
- **Tremendous capacity and up-to-date facilities of manufacture enables Columbian to build tanks to meet any specifications.**
- **Columbian's leadership is not of recent acquirement. They were the first to build A.P.I. tanks. They are still setting the pace today.**

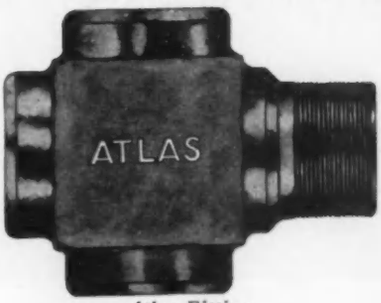
WRITE TODAY FOR FREE BOOK with pictures that describe all of the many better-built features of Columbian Bolted Steel Tanks. Tell us your tank problems. Distributors and erector crews in all fields. We are at your service—always.

COLUMBIAN STEEL TANK CO., KANSAS CITY, MO., U. S. A.

Atlas Engineering Works

▪ *Crosses, Tees, Ells*

Atlas Engineering Works, Houston, Texas, has on exhibit a wide line of products included among which are its crosses, tees and ells that are lathe cut from forged steel to A.P.I. specifications. These are made in many sizes

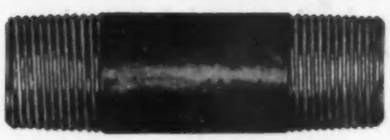


Atlas Fitting

and styles to meet a variety of operating conditions. All Atlas fittings are manufactured for four pressure tests, which are 1000, 2000, 3000 and 5000 pounds.

▪ *Nipples*

Atlas nipples are lathe cut to A.P.I. specifications and range in size from four inches to 12 inches. The company's swaged nipples are bored, turned and threaded from forged steel.



Atlas Nipple

The company also manufactures choker nipples, forged steel plugs and steel bushings in a wide range of lengths and pressure specifications.

▪ *The Murphy Tool*

The Murphy portable reversible hydraulic unit can be transported easily to any section of the field. It has a wide variety of uses, among which are liner pulling, pulling gears, straightening pipes and bars, pulling seats, etc.

▪ *Atlas Flange Unions*

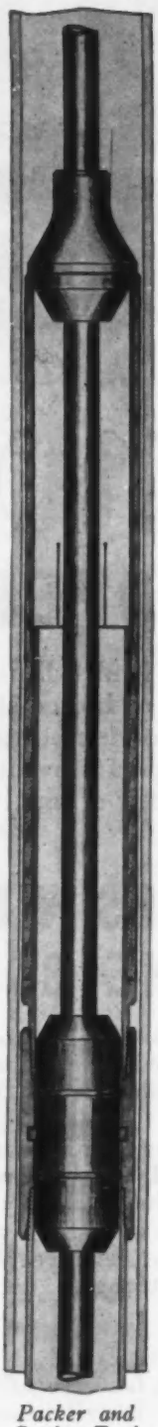
These unions are made of finest forged steel, carefully machined, heat-treated and tested to highest capacity. They consist of four parts; non-swivel flange hub, swivel flange hub, swivel flange and the interchangeable full hole seal ring. The interchangeable full hole seal ring is designed to eliminate turbulent action of the liquid passing through it.

Atlas also manufactures an interchangeable flow bean seal ring for this union. In the bore of this ring there is a screw thread for screwing the flow bean into the flow bean seal ring. The flow bean is six inches in length and may be installed with an ordinary hexagon-head socket wrench.

▪ *Packer and Setting Tool*

Superfluous parts have been eliminated in the design of the Atlas packer and setting tool. The packer, having an overall length of 50 inches, allows for ample tong space, and, because the canvas is 36 inches in length, a long time packed joint will result. A stroke of 12 to 15 inches will seal off 20 to 24 inches of the casing length.

The setting tool, being interlocked with the packer, is released by a half turn of the drill stem or the string of tubing being used and is locked in a released position. This lock and release is a positive cam acting and locking device. After the lock is released the necessary pressure is applied to pack off. After packing off the go-devil is released, traveling through the string of pipe, the setting tool, the wash pipe and to its final position in the back pressure valve. When the go-devil seats itself in the back pressure valve the pump pressure will run up and the pump will cease to operate. This indicates that the go-devil is in its correct position in the back pressure valve. The entire string of pipe, the setting tool and the wash pipe may then be withdrawn from the hole.



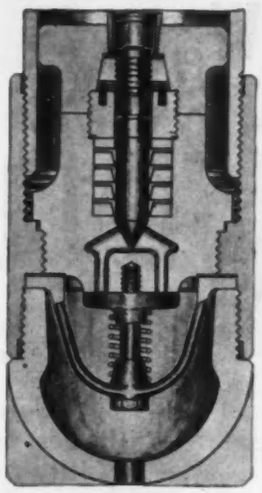
Packer and Setting Tool

▪ *Reworked Valves*

Atlas Engineering Works has perfected an organization of highly trained valve experts that is capable of performing exacting labor in a skillful and efficient manner. The department reworks all makes and types of high and low pressure valves. They are inspected and tested to their highest capacity of pressure and are guaranteed in perfect condition upon leaving the shop.

▪ *Back Pressure Valves*

Atlas back pressure valves are made in two types, the go-devil and the single ball and seat. The go-devil type is for use with the Atlas packer and setting tool. It is of odd design, having an ordinary pop valve on the bottom. Together with this and above the

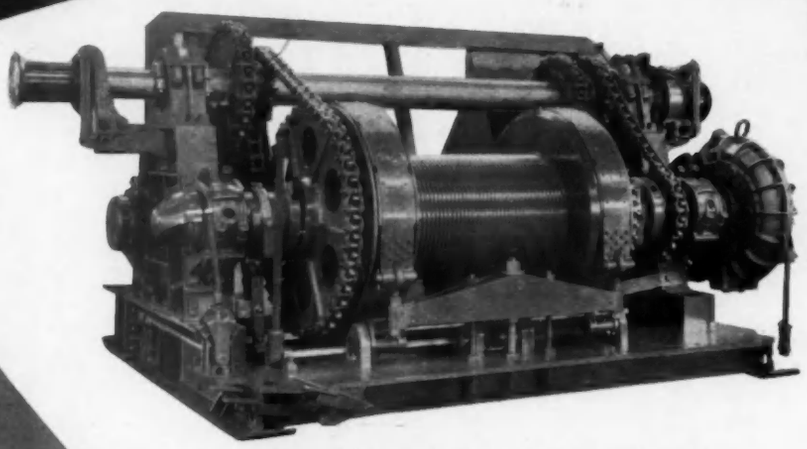


Go-Devil Type Valve

valve seat are four reversed cups of special design. Still further above the cups are a set of slips that engage the go-devil slip nut. Should any back pressure pass by the pop valve, the slips, being engaged, will actuate and retain the go-devil in its regular position and the four special cups will clamp themselves around the main

Single Ball and Seat Valve

EMSCO



Emsco Type UH-54-A Unitary Drawworks with
Type CB Brake and Equalizer

FOR DEEP WELL DRILLING

The Emsco Type UH-54-A Unitary Drawworks is the largest and heaviest drawworks produced to date by Emsco. With the Unitary type frame, which is bolted direct to concrete foundation, there is no necessity for tying in with any members of the derrick, thus insuring lack of vibration, positive and rigid brake support, and materially reducing setting-up time in the field.

For complete information send for Folder 129

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CONTINENTAL EMSCO S.A.R. Strada Marfurilor, Ploesti, Roumania

"Serving the Oil and Gas Industries"

Continental

The Man on the Rig

NEVER SEES THESE INSTRUMENTS

BELOW

The insertion of cutter segments into the cutter body. Extraordinary care is taken in the insertion of these cutter segments in order that they will all be perfectly in line.

ABOVE

Inspection of the finished cutting tool. The cutting tools are very carefully inspected to determine that the lead, taper, thread form and hardness will meet a rigid specification.

BUT THEY LIGHTEN HIS WORRIES

YOUNGSTOWN

The scientific apparatus shown here--(the only equipment of its kind in a pipe mill in the United States)--are some of the instruments which make possible Youngstown Matched Thread Perfection.

By their use every die and every coupling hob used in the production of Youngstown Oil Country Pipe is held in exact agreement.

THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon and Alloy Steels

General Offices - - YOUNGSTOWN, OHIO

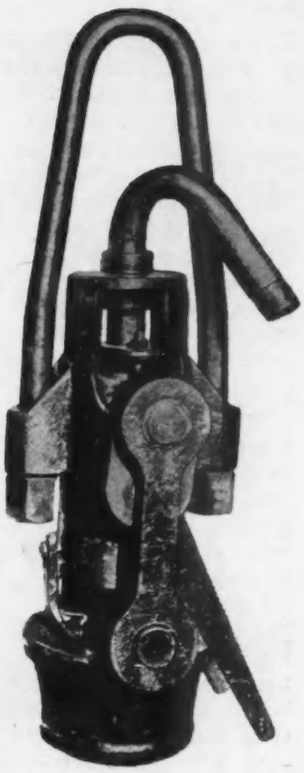
Youngstown's pipe is distributed by --

THE CONTINENTAL SUPPLY COMPANY, Dallas, Texas
REPUBLIC SUPPLY CO. OF CALIFORNIA, Los Angeles
THE YOUNGSTOWN STEEL PRODUCTS CO., Dashwood House, Old Broad Street, London, E. C. 2, England

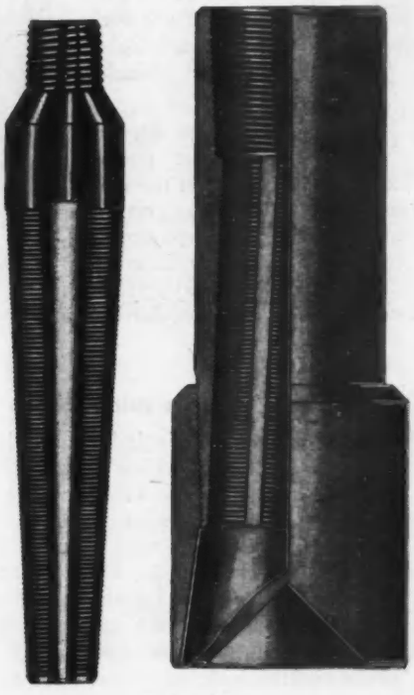
YOUNGSTOWN

body of the go-devil completely sealing off any back pressure.

The single ball and seat type is designed for use with any make of oil well screen. It combines strength with adaptability to meet any conditions.



Atlas Circulating Elevator



Atlas Taps

▪ ***Circulating Elevator***

This elevator is used going in and coming out of the hole when continuous circulation is required. It is of sturdy design. A quick acting link and lever mechanism is used, requiring only one man to operate it. A set of slips, being retained by the slip holder and being connected to the main body, are free when in a released position. When the lever is pulled down, the slip spider travels in the upward direction, closing the slips around the drill stem and sealing off the connection. To release the elevator from the drill stem the lever is pulled in an upward direction.

▪ ***Taper and Box Taps***

Atlas taper and box taps are made with precision from quality materials. The taper tap is made in lengths from 25 inches to 32¾ inches and in diameters from 1¼ inches to 4½ inches. Box taps are constructed in 16-inch lengths with outside diameters of 4½, 5⅝ and 7¾ inches.

Durametallic Corporation

▪ ***Durametallic and Dura Plastic Packings***

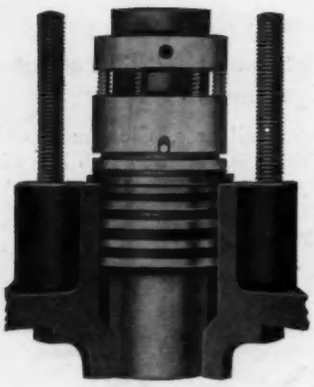
Durametallic Corporation, Kalamazoo, Michigan, display consists of Durametallic, Dura Plastic, and Dura Seal packings and its new Dura packing hook.

Durametallic packings in four grades or styles are presented. These packings are made by twisting various metallic foils upon themselves or upon a central flexible core. Spiral and ring sets, die molded to close tolerances will both be presented. Dura Plastic packings also will be shown in bulk, coil and die molded rings.

Durametallic and Dura Plastic packings are designed and recommended for service on refinery and pipe line pumps, compressors, valves, regulators, heat exchangers, still necks, agitator shafts, and other equipment handling hot oil and many other fluids found in refinery and the field.

▪ ***Dura Seal***

A notable portion of the company's exhibit is devoted to its mechanical seal, called Dura Seal, which will be shown on a pump ready to run as well as in individual sets. Dura Seal is recommended especially for pumps working corrosive and/or gritty liquids such as acid, caustic, clay oil, brine, ammonia liquor. Also for gasoline, and oil, including pipe line pumps. It is intended for service on centrifugal and rotary pumps, and other rotary shafts and on valves having stems with rotary motion. Dura Seal, consisting of an assembly of stationary and rotary members, provides a serviceable packing which eliminates shaft wear and greatly reduces friction.



Dura Seal

▪ ***Dura Hooks***

Also on display is the new packing hook called Dura Hooks. These hooks are made of especially tempered steel cable to which the other parts, also of steel, are fastened in a way to provide a hook having great strength and flexibility. Dura Hook parts are all tested for strength before assembly as are the finished hooks. The screws are especially tempered tool steel. Dura Hooks are made rust proof and are furnished in six different lengths from 7½ inches to 30 inches, inclusive, with corresponding screw sizes designed to fit packing spaces as small as ¼-inch and as large as two inches.

The Burt Corp.

▪ ***Swab***

The Burt Corp., Tulsa, Okla., is exhibiting the Burt swab. This equipment is designed to meet existing conditions of today. It is of forged steel body exclusively. The swab rubber is compounded expressly for swabs. It is oil and abrasion resisting. The swab is simple and automatic in its operation.

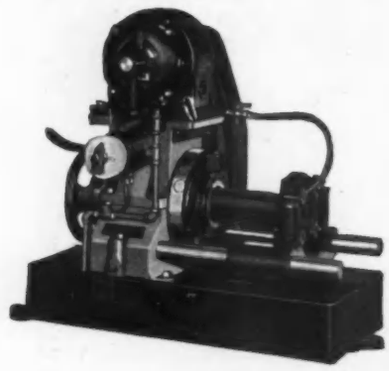
Burt Swab

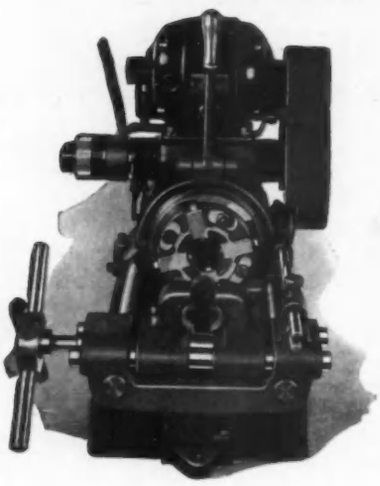
EQUIPMENT Featured at Oil Equipment & Engineering Exposition

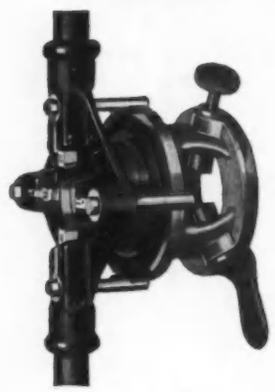
Oster-Williams

▪ *Pipe and Bolt Threading Equipment*

Oster-Williams, Cleveland, Ohio, is exhibiting its Tom Thumb line of portable pipe and bolt machines, stocks and dies and threading oil.







Oster-Williams Equipment

The No. 512 Tom Thumb Pipe Machine has a regular range covering all sizes from ½ to two-inch pipe, inclusive, and an extra range of 2½ to four-inches with special equipment. It is powered by a universal motor which can be run from the ordinary electric socket. Its design is entirely modern, using the VV Belt Drive, and worm mounted in Timken Bearings.

The No. 521 Tom Thumb is generally constructed similar to the No. 512 but is equipped with a rotary die head and open type vise which make it especially adaptable to bolt work. Its bolt capacity is from ¼ to 1¼-inches, inclusive.

The die-stock line consisting of "Leader," "Chip Chaser", "Bull Dog" and "Bull Pup" tools, is very complete, offering a tool for practically any threading job from ⅛ to four inches inclusive.

"Bestoil", a sulphur base, threading oil having heat conducting qualities necessary for the best results in pipe or bolt threading, will be put through many tests to show its ability to keep threading dies cool and assist them in cutting perfect threads.

The Charles N. Hough Mfg. Company

The Charles N. Hough Mfg. Company, Tulsa, Oklahoma, is exhibiting at the Oil Equipment & Engineering Exposition its complete line of balls and seats, working barrels, insert pumps, and related equipment.

▪ *Balls and Seats*

Balls and seats exhibited by The Charles N. Hough Mfg. Company include the "Steelex," "Repelex," "Bronzex," "Resistex," and "Combinex." As the trade names indicate, they are for use under five conditions. "Steelex" is for use where sand conditions are bad; "Repelex" resists corrosion and the cutting action of sand. "Bronzex" is for use where lodestone or other elements which act on steel are in the water, or where there is alkali in the oil or water. "Resistex" is to contend with combined sand abrasion, lodestone, acid and alkali conditions. "Combinex" is a combination "Steelex" seat and "Bronzex" ball. The bronze ball will not magnetize, according to the manufacturer, and the seat will endure the action of floating sand.

Hough Ball and Seat

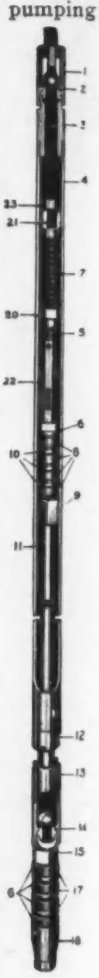
▪ *Insert Pumps*

Three types are included in Hough's display of insert pumps. The Huf-Lewis insert plunger pump is designed to reduce trouble with vacuum or with gas locks interfering with pumping action. A polished plunger works through a packed stuffing box. There are no cups to cut out. The Lewis pump, which pumps low, can be installed or removed complete with the sucker rods.

Huf-Lewis Plunger Pump

The Huf-Duo insert plunger pump is run in on sucker rods and seats in an installed working barrel. The pump can be unseated to make repairs without damage to cups. The plunger fitting has five, inverted, composition cups. (The pump is also available in an eight cup type). The outer tube is the moving part of the unit, causing an agitating effect. The Huf-Duo units displayed are for use on 2-inch, 2½-inch and 3-inch tubing.

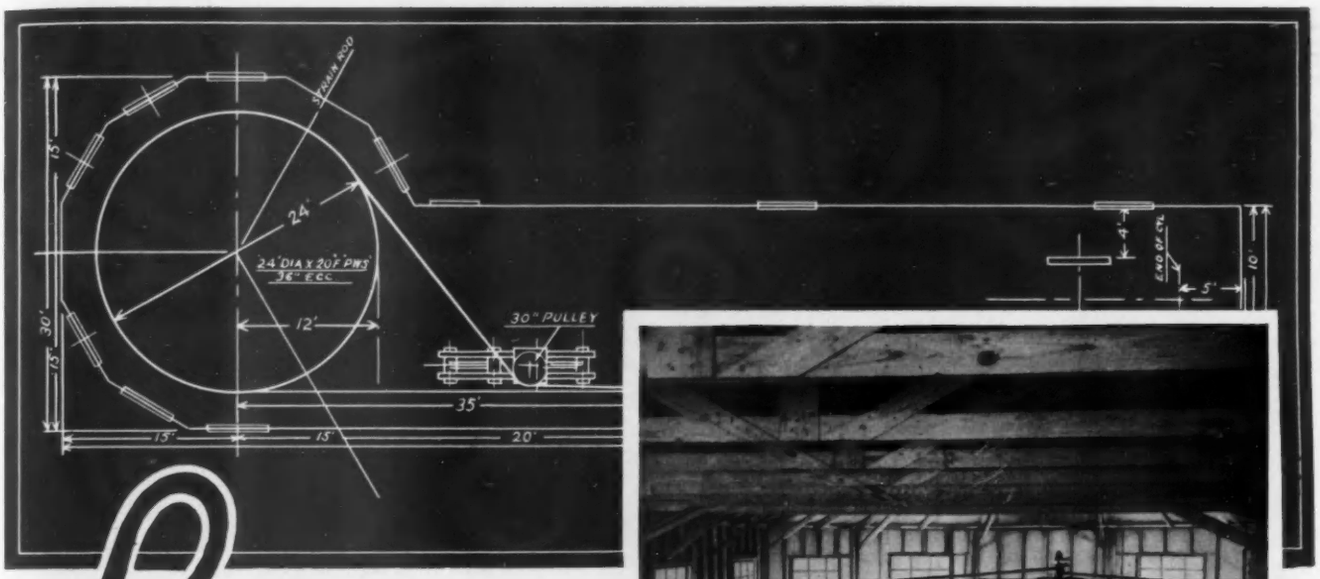
The Huf-Supersize insert pump exhibit is built to meet the demand for an oversize, maximum capacity, liner type working barrel. The manufacturer claims it will handle 20 percent more fluid than the regular insert pump.



Huf-Duo Insert Pump

▪ *Working Barrels and Valves*

The Hough booth includes a display of seamless steel working barrels and working barrel valves. The former are made to A.P.I. specifications and are furnished in all sizes with smooth inside finish. Also Hough shows bronze, cast iron, and chrome plated working barrels. Working barrel valves shown vary in type and size, ranging from seven-eighths-inch to 3¾-inch for tubing made of steel or bronze.



Better TRANSMISSION

SUPER EXCELO
OIL COUNTRY BELTING

NRA
We do our part
Operating Under
Approved Code
No. 108

● Super Excelo has established such a high standard of transmission efficiency in the oil fields that engineers look to it for the best possible results. At one time those expectations were entirely based on Republic's reputation for quality production but today they are also founded on long experience by producers themselves.

That is why Super Excelo is such a familiar product in all important oil fields. It is firmly established — always signifying strength, flexibility, even tension, minimum slippage, low permanent stretch and long life among the innumerable installations where, year in and year out, it has given smooth, capable performance.

It takes mighty good power transmission to make the wheels go round at highest efficiency in the oil industry and Super Excelo is the belt that never fails to give satisfaction. Put it to use at your wells and you will be as strongly convinced on that point as we have become through the most careful checks of its operation at hundreds of locations.

Super Excelo can be secured in roll or cut lengths, or endless to specifications. Our distributors carry such ample stocks that you can always rely upon immediate and helpful service.

Mid-Continent Distributors

FRICK-REID SUPPLY CORPORATION, TULSA, OKLA.

THE BOVAIRD SUPPLY CO., TULSA, OKLA.

THE REPUBLIC RUBBER CO. YOUNGSTOWN, OHIO

Manufacturers of Rotary and all other types of Hose, Transmission Belting, Packing, Gaskets, Rings, etc. for Oil Country Service

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Patterson-Ballagh Corporation, Ltd.

▪ ***Casing Protectors***

Patterson-Ballagh Corporation, Los Angeles, California, is exhibiting its all rubber casing protectors. This is the pioneer protector used to prevent wear between the drill pipe and the casing.

The manufacturers claim it will increase tremendously the life of the drill pipe and decrease operating costs.

These protectors are made in short or regular styles, and in the extra long lengths and super-size called the "Stabilizer." Installation of these protectors is with an expanding device developed by Patterson-Ballagh.

These casing protectors are on exhibit at Bettis Sales Company booth.

American Lubricator Company

▪ ***Lubricators***

American Lubricator Company, Dallas, Texas, is showing a line of force and sight lubricators for oil field and pipe line and general use.

The lubricators are built for heavy duty and are adaptable to engines, pumps, and practically any other type of drive. The parts are standardized, making replacement easy. Each unit is adjusted by a thumb screw on outside of lubricator, giving the exact amount of lubrication required.

American Lubricator

"Standard" lubricators on display are equipped with roller bearing clutches, bronze oil-less bearings, and die cast pumping units, stainless steel plungers and hardened, precision fit, stainless steel valves without balls.

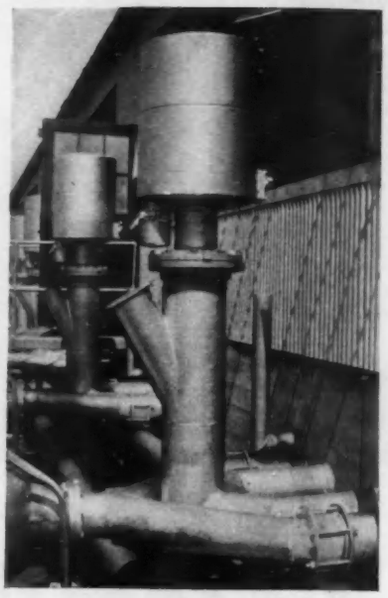
Standard lubricators are used in precision chemical treatment of crude oils.

Vortox Manufacturing Company

▪ ***Air Cleaners***

Vortox Manufacturing Company of Claremont, California, will exhibit in Booth No. 612, a complete line of air cleaners suitable for all types of internal combustion engines, including gasoline, natural gas, and Diesel types, as well as air compressors of all types and makes.

One feature of the Vortox exhibit will be a working model of one of the new pressed shell Vortox Air Cleaners 9½ inches in diameter. This cleaner will be built with large windows so that visitors can see the cleaner in action. Also, arrangements have been made to feed dust into the cleaner so that the washing action of Vortox can be demonstrated.



Vortox Air Cleaner

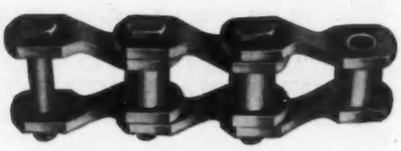
One of the new large type Vortox self washing cleaners for mounting on natural gas and Diesel engines, also will be on display.

The Union Chain & Manufacturing Co.

▪ ***Chains and Sprockets***

The Union Chain & Manufacturing Company, Sandusky, Ohio, is displaying its complete line of equipment applicable for use in the oil industry.

Of particular interest is the line of rotary drilling chains, all conforming to A. P. I. specifications, with a design and strength to fit the varying conditions encountered in rotary drilling service.

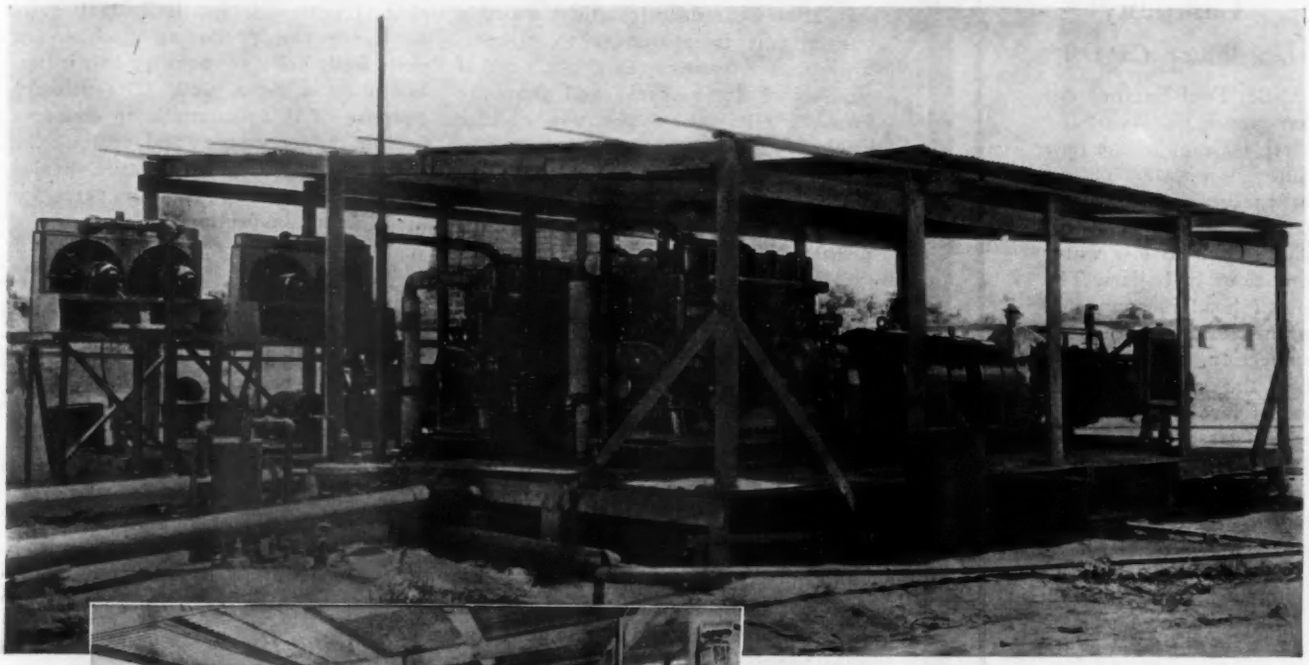


Union Chain

The line of A. P. I. No. 3 chains has a range of ultimate tensile strength from 28,000 to 75,000 pounds, and the A. P. I. No. 4 chains have a range of ultimate tensile strength from 112,000 to 140,000 pounds.

Also exhibited, are Union silent chain drives and Union machine finished roller chains suitable for the transmission of power at high speeds.

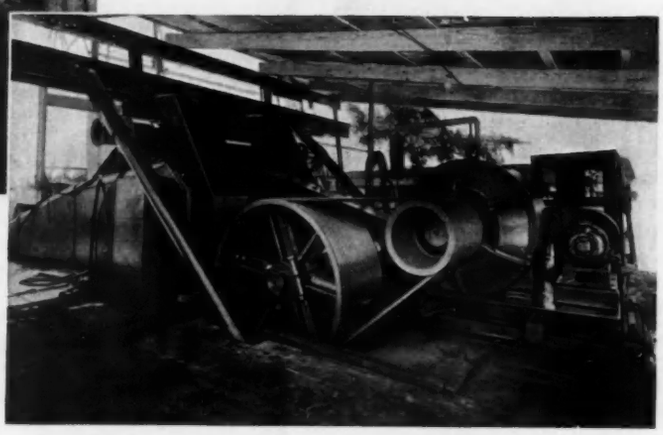
D. C. DRILLING RIGS



D-C Oil Well Drilling Rig with Gas Engine Drive.

Oil Well Drilling Engine and Generator Units.

Oil Well Drilling Hoist Motor and Single Reduction Texrope Unit.



150,000 Feet of Hole

THE Allis-Chalmers direct-current electric drive for rotary drilling (gas-electric rig) combines the desirable characteristics of the steam engine, the fineness of control of the direct current motor, and the economies of the internal combustion engine.

With this drive it is impossible to overload or stall the engines. Either one or two engines may be used for drilling. All parts are protected against rough handling. Low voltages make control easy and safe. Units have self contained blowers, separately driven exciters, and electric starting for engines.

Allis-Chalmers pioneered in the development of heavy-duty d-c rotary drilling equipment . . . Have drilled 150,000 feet of hole . . . First unit built has been continuously busy since shipment 27 months ago.

ALLIS-CHALMERS

— Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, U.S.A. —

OIL FIELD EQUIPMENT

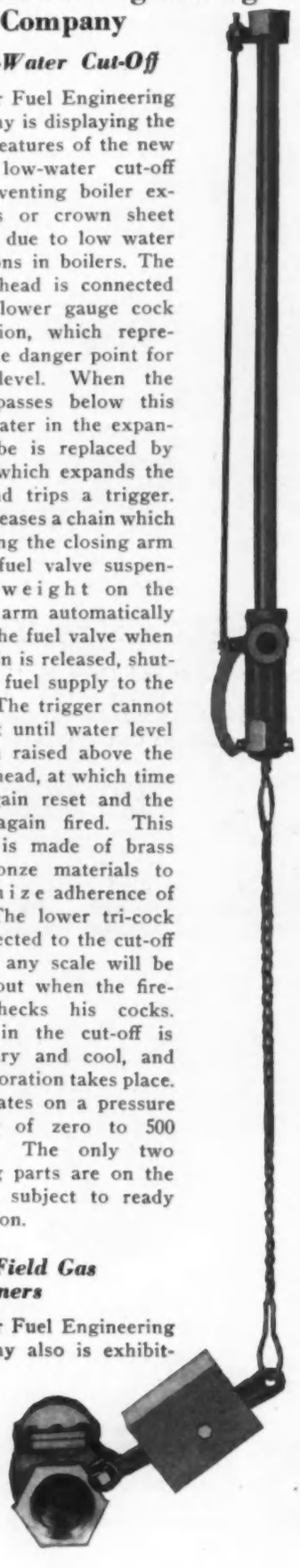
Oil Well Countershaft Units
Motors and Control
Texrope V-Belt Drives
Centrifugal Pumps
Plunger Pumps
Wheel and Track-Type Tractors
Air and Gas Compressors
Generators
Transformers
Vibrating Screens

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Miller Fuel Engineering Company

▪ ***Low-Water Cut-Off***

Miller Fuel Engineering Company is displaying the safety features of the new Miller low-water cut-off for preventing boiler explosions or crown sheet failures due to low water conditions in boilers. The cut-off head is connected to the lower gauge cock connection, which represents the danger point for water level. When the water passes below this level, water in the expansion tube is replaced by steam, which expands the tube and trips a trigger. This releases a chain which is holding the closing arm of the fuel valve suspened. A weight on the closing arm automatically closes the fuel valve when the chain is released, shutting off fuel supply to the boiler. The trigger cannot be reset until water level is again raised above the cut-off head, at which time it is again reset and the boiler again fired. This cut-off is made of brass and bronze materials to minimize adherence of scale. The lower tri-cock is connected to the cut-off so that any scale will be blown out when the fireman checks his cocks. Water in the cut-off is stationary and cool, and no evaporation takes place. It operates on a pressure range of zero to 500 pounds. The only two working parts are on the outside, subject to ready inspection.



▪ ***Oil Field Gas Burners***

Miller Fuel Engineering Company also is exhibiting the Miller line of oil field gas burners, made of cast iron. The unique design allows the user to adjust a single burner unit from ounces to pounds. This burner features the pre-mixing of air, before it is discharged into the furnace, eliminating the use of fire brick or the raising of the boiler in order to secure fire box volume. The design is extremely simple to the point of requiring no instructions or blueprints on the part of the user in making proper installation. It represents, from an installation standpoint, merely placing in a fire-box and connecting to the gas line. As the gas pressure is increased, the air automatically increases in proportion without any adjustment being necessary.

Koenig Iron Works

▪ ***Auto Bumper Winches***

Koenig Iron Works, Houston, is demonstrating in an outside exhibit adjacent to Convention Hall the new King auto winch, which enables a truck or passenger car driver to pull himself from mud, sand, or roadside ditch without aid. The winch is mounted on the bumper, and made in power and hand types. The power winch operates from a power take-off at the automobile transmission, the take-off being manufactured and installed by Koenig Iron Works for passenger cars and pick-up trucks not already equipped for such at the factory. Gear ratio of the winches is 17 to one, enabling any driver to pull a heavily loaded truck from a steep ditch with the hand winch. Upon getting stuck the driver merely unreels a hook-equipped flexible cable and ties onto a tree or fence post, using a screw anchor if no natural anchor is convenient, then operates the winch, whether it be hand or power, pulling the vehicle up to the anchored point.

Gas Power-Incorporated

▪ ***Flow System***

Gas Power-Incorporated, Houston, is displaying a miniature working model of the GPI system of flowing wells, using a transparent tube for the purpose of presenting operating method directly. This patented well flowing system is being used widely today to reduce gas-oil ratio, water-oil ratio, and operating pressures, and the flow of the well is handled entirely by the turn of a valve at the surface, once the exact number of barrels desired has been determined and the system installed. The company uses questionnaires compiled by the well owner covering the characteristics of his individual wells to figure the producing problem of each well, prior to figuring the installation on a given well. The primary purpose of this system is to conserve bottom-hole pressures and prolong the life of wells. Augmenting the display are blue prints and sample parts for engineering inspection.

The Linde Air Products Co.

▪ ***Acetylene Generator***

The Linde Air Products Company, New York, will show for the first time a new medium pressure acetylene generator. This generator, known as the Oxweld Type MP-6, is a small rugged and low-priced unit suitable for either portable or stationary use and comes in two sizes of 50 to 100 pounds carbide capacity.

▪ ***Welding Heads***

The company will demonstrate recently introduced multi-flame welding heads, and visitors will be given an opportunity to try this new equipment if they so desire.

▪ ***Welding Torch***

Also on display will be the new Purox No. 35 general-duty welding torch. According to the manufacturer, it is distinguished by many features, prominent among which is the unique mixer arrangement that permits full range of operation with only nine welding heads.

▪ ***Cutting Machines***

Two types of motor-driven portable cutting machines, the Oxweld Monitor or CM-8 and the Oxweld Secator or CM-5, also are being demonstrated. Both of these rugged machines can do straight-line cutting, vertical or beveled, and can be adjusted to cut inside or outside circles. The Monitor is a track operated machine, while the Secator is hand-guided, making it particularly suited for the cutting of curved or irregular shapes.

Service Pattern & Model Works

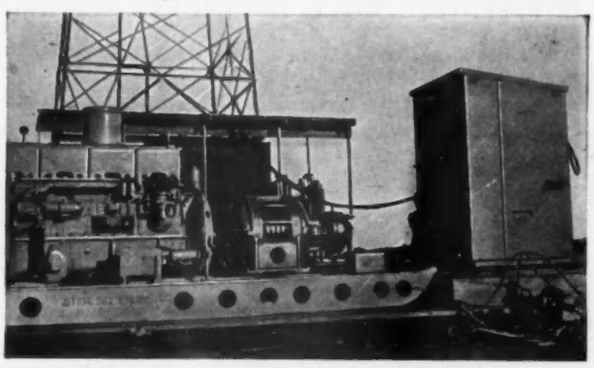
▪ ***Patterns***

Service Pattern & Model Works, Houston, is exhibiting a complete line of patterns for the various tools that are used in the oil industry.

Specify G-E DRIVE for Your Rotary Rigs

SPECIFY General Electric drive for your rotary rigs to assure dependable, economical drilling. General Electric offers either induction-motor drive, for use where a-c. power is available or where you prefer a-c. power from an engine-driven rig; or direct-current-motor drive, which provides the advantages of great flexibility and capacity.

With wildcat drilling increasing, the cost of rotary-rig operation is becoming more and more important. Power costs have been cut as much as 80 per cent by changing to G-E electric drive. You gain **DEPENDABILITY, PORTABILITY, FLEXIBILITY,** and increased **SALVAGE VALUE.**



Write or call the nearest G-E sales office today. An oil-well specialist will show you definite proof of savings that you can make by using G-E motors, generators, cable, and accessories in your drilling operations. General Electric, Schenectady, N. Y.

Ask for Bulletins GEA-1386 and GEA-1388 on d-c. and a-c. rotary-rig drives.

020-144

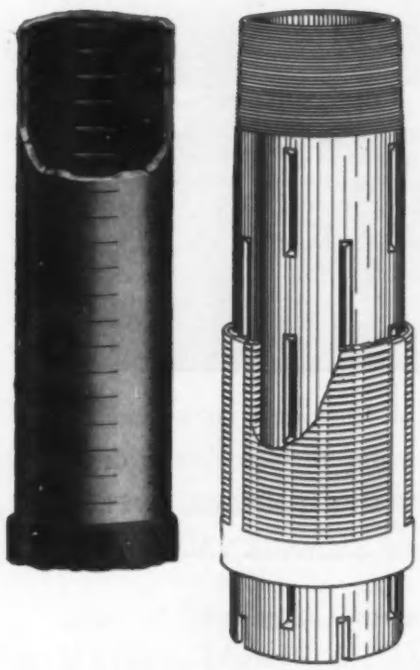
GENERAL ELECTRIC

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Houston Oil Field Material Company

▪ *Emsco Screen*

Houston Oil Field Material Company, Houston, is displaying the improved Emsco vertical slotted wire wrapped screen, having a new enlarged slot of ¼ inch x 3 inches, which gives this screen 50 percent more opening into the pipe than the previous slotting arrangement of ¼ inch x 3 inch slots. This screen now is made in standard slotting of 24 enlarged vertical slots to the foot (for five-inch pipe size) and in double slotting of 48 slots to the foot (for five-inch pipe size). In five-inch pipe the 24 slots to the foot give the opening capacity 18 square inches per foot, and the 48 slots per foot give the opening capacity 36 square inches per foot, the former equivalent to 162 round holes of ⅜-inch diameter, and the latter equivalent to 327 round holes of the same size.



Left: Emsco Slotted Screen Pipe
Right: Emsco Wire Wrapped Screen

▪ *Emsco Screen Pipe*

Also exhibited in this booth is the line of Emsco slotted screen pipe, a screen made pipe with no wrapping or inserts. It offers maximum smoothness, ease of setting and pulling, and length of life. It may be rotated or spudded reasonably without risk of damage. Slots are milled with walls parallel for approximately one-half the thickness of the pipe. Walls then branch out into a "V" shape which permits anything that can enter a slot to be carried through. This pipe is made from regular couplings of flush joint. It is furnished in any size gauge from .010 to .10-inch or larger, and in pipe sizes from 2½ inches to 15½ inches.

▪ *Standco Brake Lining*

Standco brake lining, manufactured by Standard Brake Lining Company, was especially developed to prevent scoring of steel brake rims in deep well drilling. A solid interweave of long fibre asbestos cabled cords, with no layers to separate and peel off, is its unique design. It is reinforced with soft bronzed wire of special formula to quickly conduct heat from the friction surface to allow a cooler result in proper braking.

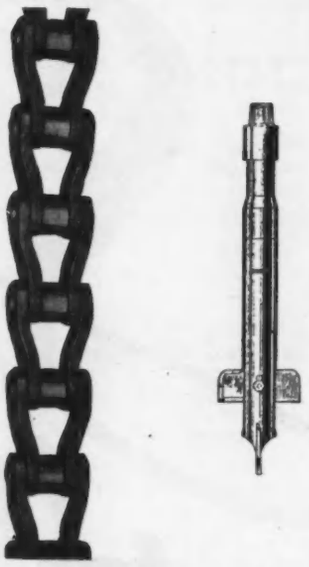
▪ *Homco Blowout Preventer*

The Homco blowout preventer main body screws on casing, and a pack-off assembly quickly latches around drill pipe and sets down in the body, effecting a seal, in event well starts bucking. Pack-off assembly automatically locks when it goes into the preventer body. Special releasing rods allow the release of the pack-off assembly from the derrick floor after the well has been brought under control. This preventer has two flow-line outlets and is furnished in sizes to pack off all sizes of drill pipe and tubing.

Homco Blowout Preventer

▪ *Rotary Drilling Chain*

Homco also is displaying the line of Jeffrey rotary drilling chains which is built in a special balance design to withstand jerking strain of driving the rotary and hoisting heavy pipe loads. This line of rotary chain is made in two sizes, A.P.I. No. 3 and A.P.I. No. 4, and in three grades, standard, plus and alloy.



Right: Baker Wall Scraper
Left: Jeffrey Rotary Chain

▪ *Baker Wall Scraper*

The Baker wall scraper is a hydraulically operated underreamer, with scraper blades which expand from pump pressure to cut their way up to a horizontal position while the string is being rotated. The blades are then held in position, once their full gage is reached, by the shoulder formed in the formation. Circulation is kept up all through the scraping operation.

▪ *Crown and Traveling Blocks*

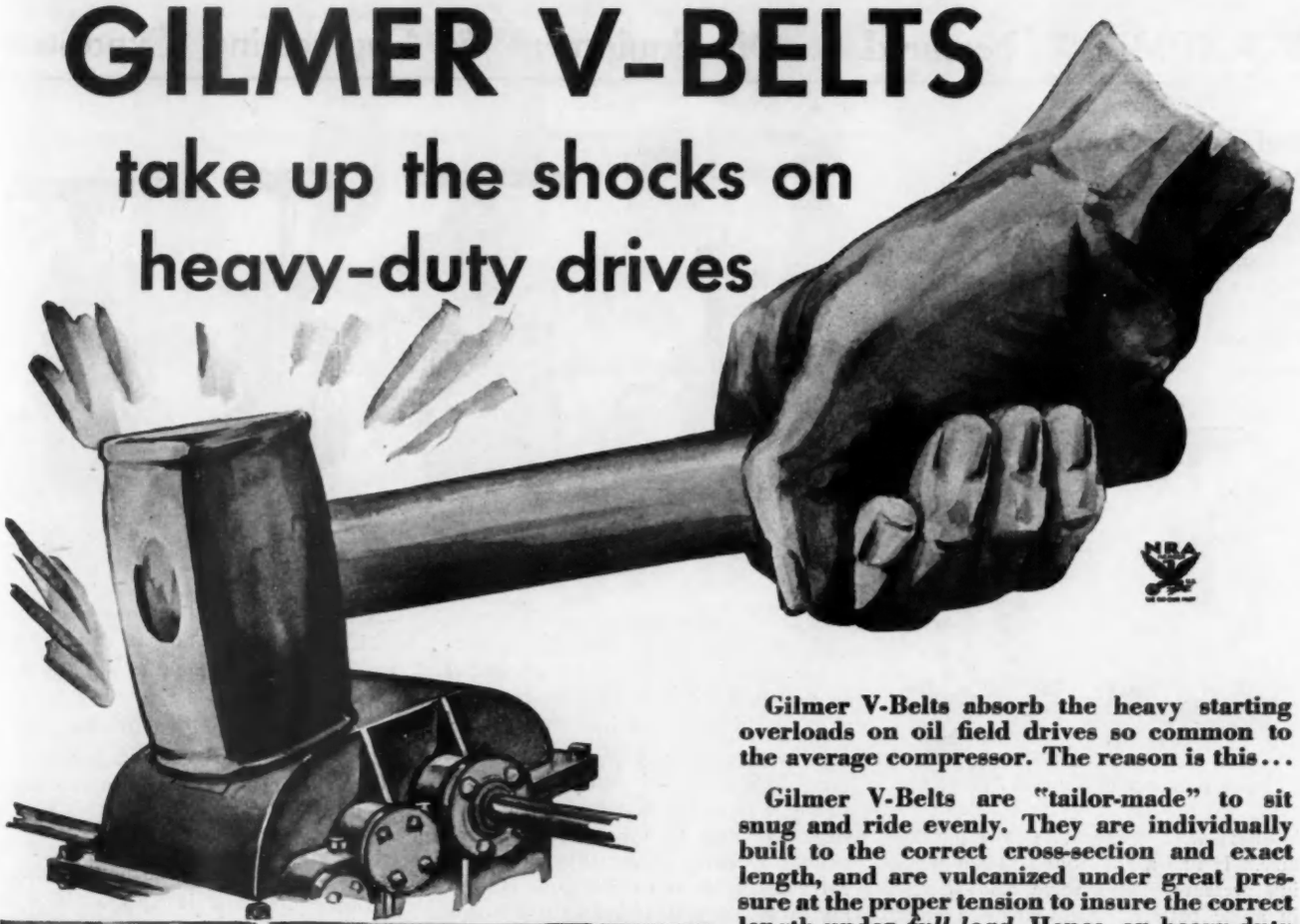
Homco also is displaying the line of Regan crown blocks and traveling blocks, which are distributed in the Gulf Coast territory by Houston Oil Field Material Company. These crown and traveling blocks are both designed to fit API derrick specifications, and are furnished in any required size with any desired number of sheaves.

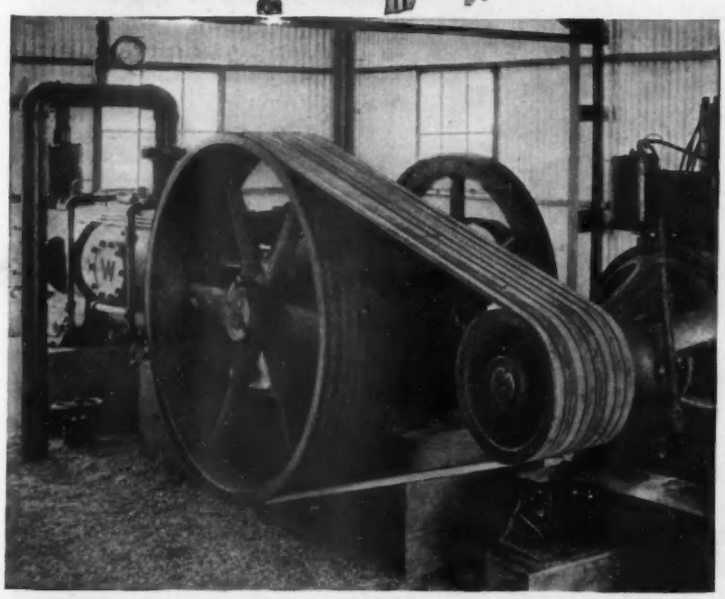
▪ *Hydraulic Pumps*

In the Homco booth is displayed the V-K Hydraulic pump. This pump consists of a standing tube, a solid steel plunger fitting into the standing tube, an outside traveling tube which telescopes over the standing tube, and a by-pass nipple which is a conduit through which the fluid passes in and out of the pump. It does not have a central fluid course. The fluid is drawn into fluid chamber on the upstroke of the plunger through a suction ball and seat. On the downstroke the solid steel plunger forces fluid down through the by-pass and back up through a discharge ball and seat, out into the tubing. Detail facts on this new pump will be presented at the exposition.

GILMER V-BELTS

take up the shocks on heavy-duty drives





An interesting oil field gas lift unit drive. The machine is of the reciprocating type, and the load, naturally, has momentary variations and many overload characteristics. With Gilmer V-Belts, the motor delivers a smooth . . . even . . . flow of power.

Gilmer V-Belts absorb the heavy starting overloads on oil field drives so common to the average compressor. The reason is this . . .

Gilmer V-Belts are "tailor-made" to sit snug and ride evenly. They are individually built to the correct cross-section and exact length, and are vulcanized under great pressure at the proper tension to insure the correct length under *full load*. Hence, on heavy duty multiple drives, they share the load equally . . . pick it up *gently* . . . and transmit a smooth, unvarying, constant flow of power.

In all oil fields, Gilmer V-Belts are proving themselves superior by providing steady, maximum power at all times . . . decreasing wear and tear on machinery . . . effecting substantial savings in power costs! Let Gilmer V-Belts do this for you, too. You will find them equally efficient on Triplex and Centrifugal Pump Drives and all short center drives. Gilmer V-Belts are sold in standard stock and special sizes to fit any make or size of drive.

L. H. GILMER COMPANY, Tacony, Phila.

Gilmer BELTS

Manufacturers OF COMPLETE LINE OF POWER BELTING

V-belts · Kable Kord Roll and Endless Flat Belting · Planer Belts · Speedage Endless Fabric Belts · Cone Belts
Roving Frame Belts · Moulded Rubber Belts · Winder Belts · Spinner Belts · Refrigerator and Washing Machine Belts
Conveyor Belts · Round Roll and Endless Fabric Belting · Endless Belting · Endless Cotton Belts · Laundry Feed Ribbons

SPECIALISTS IN QUALITY BELTS SINCE 1903

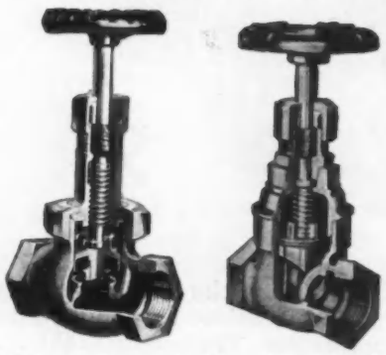
Fairbanks Company

▪ *Valves*

Fairbanks Company, New York, exhibiting in the booth of T. T. Word Supply Company, has on display a line of valves and accessories.

Included in the exhibit are the following:

A bronze globe, radial seat union bonnet with renewable composition disc. It has a 150 pound steam working pressure. This valve also is made in angle pattern. Sizes are one eighth to three inches.

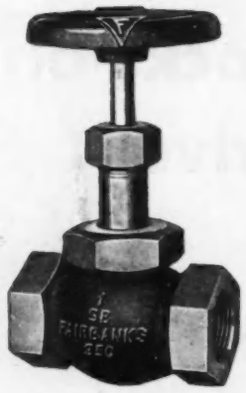


Fairbanks Bronze Globe and Bronze Gate

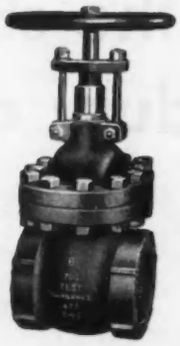
A solid wedge pattern bronze gate with renewable bronze seat rings of 150 pounds steam working pressure also is exhibited. This gate also is made with flanged ends. Sizes are one half to three inches.

The "Hitensil" globe is of iron body with bronze trim. It has renewable and regrinding nickel alloy seat and disc. The steam working pressure is 150 pounds, and may be obtained in angle pattern. Sizes are one half to two inches.

A ball-plug type with quarter stop is manufactured by Fairbanks Company. It has a steam working pressure of 200 pounds and is made in sizes from one half to four inches. It also is made with flanged ends and with worm gear attachment.



Bronze Regrinding Globe



Taper Seat Gate

U-Bolt Gate

Bronze Solid Wedge Gate

A bronze regrinding globe of plug type with renewable nickel alloy seat and disc is being shown. It is made in sizes one half to 1¼ inches with 225 pounds steam working pressure. This valve also is made for 200 pounds working pressure in sizes 1½ to two inches, and may be obtained in angle pattern.

An extra heavy bronze regrinding globe made for 350 pounds steam working pressures in sizes one half to two inches is on display.

Another Fairbanks valve on exhibit is a semi-steel, double-wedge, taper seat gate with nonrising stem. It has 400 pounds cold oil, water and gas working pressure, and is made in sizes two to eight inches.

An iron body swing check of 150 pounds steam working pressure is made in sizes two to 12 inches. It also is made with screwed ends and in extra heavy pattern.

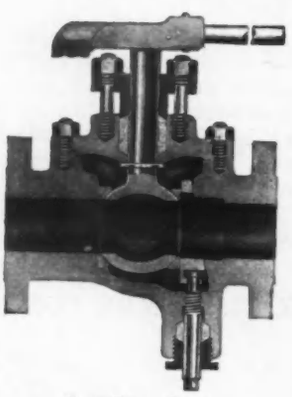
Also on exhibit is a U-bolt, iron gate of 125 pounds steam working pressure, in sizes one half to four inches.

A bronze gate of solid wedge style and with non-rising stem that has a 350 pounds steam working pressure is being shown. It is made in sizes one half to two inches.

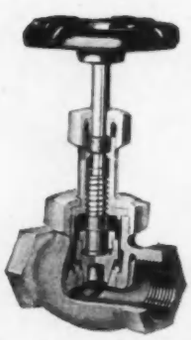
A solid wedge, iron body gate, bronze mounted, for 125 pounds steam working pressure is shown in sizes two to 24 inches.

A bronze check of 150 pounds steam working pressure is available in sizes one half to two inches and is on display.

"Hitensil" Globe



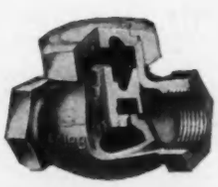
Ball-Plug Type



Bronze Plug Type Regrinding Valve

Iron Body Swing Check

Iron Body Gate



Bronze Check

IDECO

AN INTERNATIONAL ORGANIZATION
DEVOTED TO ENGINEERING · BUILDING
AND DISTRIBUTING OIL FIELD EQUIPMENT.

Years of Experience the World Over

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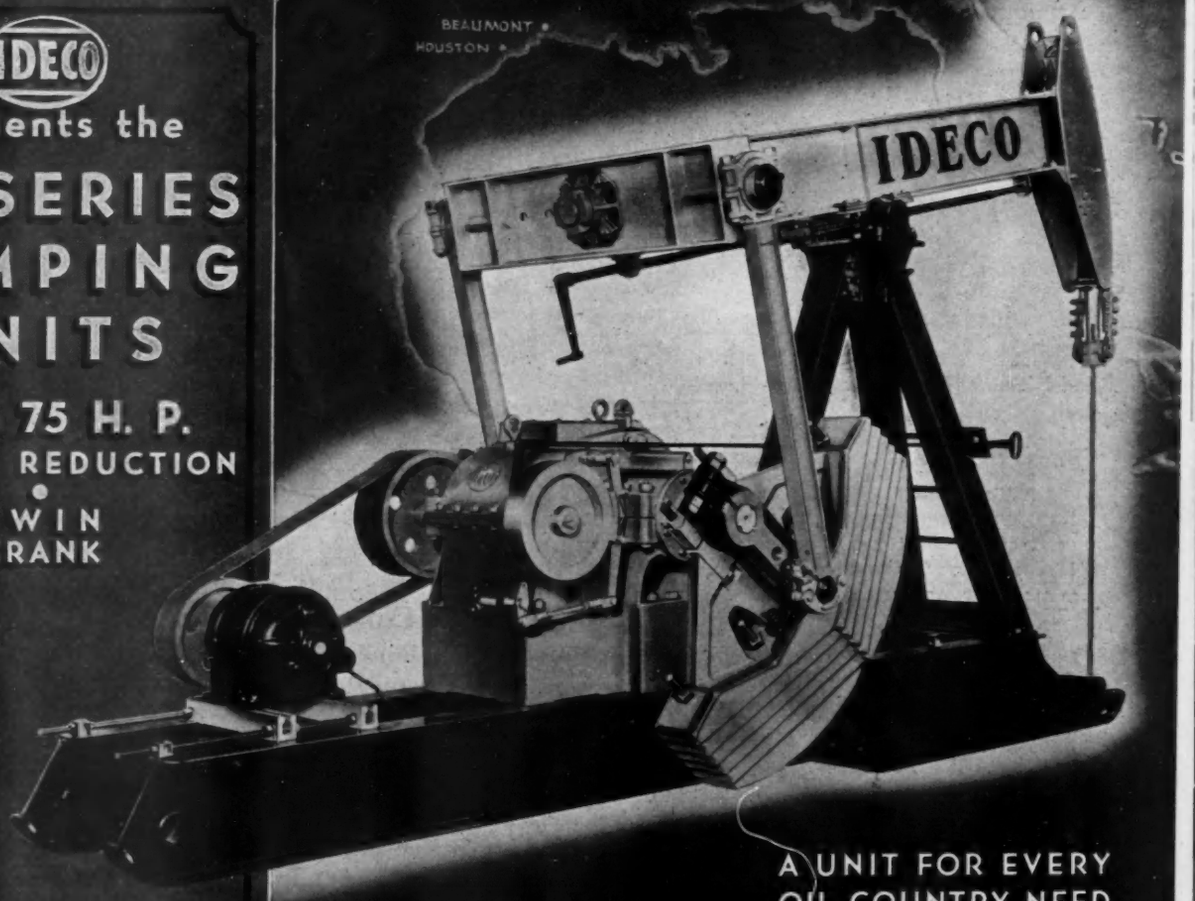
Presents the

DT SERIES PUMPING UNITS

10 to 75 H. P.
DOUBLE REDUCTION
•
TWIN CRANK

EMBODYING EVERY DESIRABLE AND PRACTICAL FEATURE KNOWN TO FIELD AND MANUFACTURING EXPERIENCE



A UNIT FOR EVERY OIL COUNTRY NEED

Also built with single crank

THE INTERNATIONAL DERRICK AND EQUIPMENT CO.
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Branches in All Active Oil Fields

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Black, Sivalls & Bryson, Inc.

Black, Sivalls & Bryson, Incorporated, Oklahoma City, Okla., displays a number of specialties, including pilot valves, safety heads, automatic gas shut-off valves, safe-walks, wood tanks and flow treaters.

▪ *Pilot Oil Valves*

There is a full size, working exhibit, demonstrating the ability of these pilot controls to shut off to a degree the manufacturer characterizes as "absolutely bottle tight," even under high pressures.

▪ *Safety Head*

Black, Sivalls & Bryson have a special test machine demonstrating the

B. S. & B. Safety Head

safety features of the B. S. & B. safety heads. Some of the features are claimed to be unique.

▪ *Shut-Off Valve*

The shut-off valve shown is an automatic gas shut-off valve designed to convert any separator into a dual control separator. This valve is demonstrated under operating conditions.

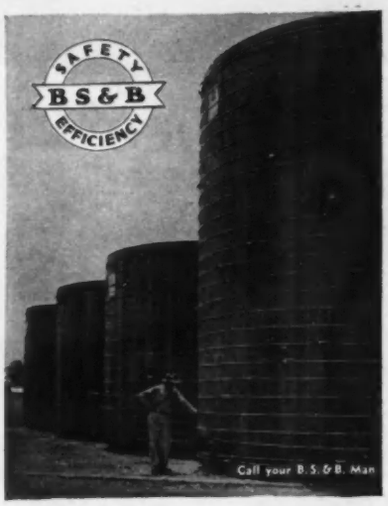
Gas Shut-Off Valve

▪ *Safewalks*

In the B. S. & B. booth there are also scale models of that organization's safe walks which show the adaptability of the bridge construction for tanks, refineries, and all elevated structures to which safe access is important.

▪ *V. P. Wood Tanks*

Included in the exhibit is also a half section model of the V. P. wood tank



Battery of B. S. & B. Wood Tanks

illustrating the corrosion proof features of construction of a wood tank designed specifically for handling sour oils.

▪ *Flow Treaters*

Another feature of the exhibit is a full sized model of B. S. & B.'s new automatic emulsion breakers combined with gas separators, a late development in lease treating and separating equipment.

Diamond Metal Company

▪ *Bit Conditioning Hard Metal*

Diamond Metal Company, Houston, has an interesting exhibit showing not only the line of Diamond substitutes in tube metal, insert and composite rod form from the standpoint of material and manufacturing methods, but displaying the results of Diamond metal on drill bits pulled off the job in the

Diamond Inserts

Handy Packaging of Diamond Metal

field. How to get the most wear out of bits through proper setting of inserts and facing with tube metal to obtain from Diamond metal the sharp, ragged "fingers" is illustrated, as well as the use of this metal to hold up the reaming edges of the bit to eliminate necessity of following up bit with reamer. Results of the Diamond Metal Company's process of tough-hardening its product may be seen in this exhibit, showing how brittleness is prevented. The ease of applying Diamond metal without "floating" will be shown as well as the resistance of this metal to breaking down, even under the greatest heat of a welding torch. The company has on display also the line of Swedish high carbon welding rod, which is distributed throughout the Southwest.

Diamond Tube Metal

PERHAPS THIS WILL TELL YOU WHY GOODYEAR BELTS LAST 2 TO 10 TIMES LONGER

Dynamometer test measures efficiency—helping Goodyear build better belts

IN THE Goodyear Development Laboratory stands a huge machine with a control panel almost as large and complicated as that of a radio station. It is known as the 100 H. P. Dynamometer—but it ought to be called the belt buyer's best friend.

For it has contributed in no small way to Goodyear's ability to build belts that often deliver up to *ten times longer* service than other makes, especially on heavy duty drives.

Duplicates actual service conditions

This ingenious belt-testing dynamometer has not only made it possible to duplicate, in the laboratory, the most severe operating conditions—from the high speed, mile-a-minute drives on flour mill grinders and paper mill rag cutters, to the heavy loads encountered on oil well powers, rock crushers, beaters, etc.—*but it actually measures the efficiency of a belt by recording its slip and power capacity under any combination of speed and load, or overload.*

But what interests you is that these tests have enabled Goodyear to ferret out the weak points—to make belts more nearly stretchless—to increase power capacity without increasing size and weight. In short, to develop better belts for every type of drive.

The best proof of that is typical records like these: *Goodyear* THOR *Belts cut belt costs 50% on beater drives in mid-west paper mill!*

Goodyear COMPASS *Belt gave seven times longer service than best previous belt on southern oil well pump drive. Goodyear* TRANSMISSION *Belt now in 13th year of service on eastern cement mill rock crusher drive.*

Job-fitted by G.T.M.

Goodyear Belts will give you this same cost-reducing service because they are correctly designed for your particular operation—and because the right type and size of belt is correctly specified for it by the G.T.M.—Goodyear Technical Man.

For more than 20 years this practical belting expert has been the right hand man of American Industry on all belting matters. Never was his experience, and Goodyear's proven leadership in belt design, so important as in these days of rising costs.

To consult him, write Goodyear, Akron, Ohio, or Los Angeles, California—or the nearest Goodyear Mechanical Rubber Goods Distributor.

BELTS • MOLDED GOODS
HOSE • PACKING
MADE BY THE MAKERS OF GOODYEAR TIRES

THE GREATEST NAME IN RUBBER

GOODYEAR

Geo. S. Mepham Corp.

▪ *Drilling Muds and Chemicals*

Geo. S. Mepham Corporation of East St. Louis, Illinois, is exhibiting a complete line of drilling muds; also chemicals for mud control. Some of the items are new, having been developed during the past year, and they are exhibited for the first time.

▪ *Colox*

A colloidal iron oxide of high specific gravity (approximately 4.5 to 4.8) for weighting and conditioning rotary drilling mud. Manufactured in several grades to meet specific requirements

of various drilling conditions. Due to the colloidal nature of the material excellent suspension is provided, states the manufacturer.

Is a splendid wall builder, forming a thin strong wall which has proven extremely valuable in drilling heaving shale and other troublesome formations, according to the manufacturer. The high specific gravity of Colox permits of building very heavy muds of low viscosity. Muds weighing as much is 22 pounds per gallon have been used in killing blowouts in Gulf Coast areas. These muds were sufficiently fluid to permit easy pumping into the well.

▪ *Meptol*

An organic compound for reducing the viscosity of drilling mud, gives the maximum reduction of viscosity, a minimum of jell reaction, can be easily applied and understood by the average field workman and is in concentrated form to permit being easily transported to the point of use.

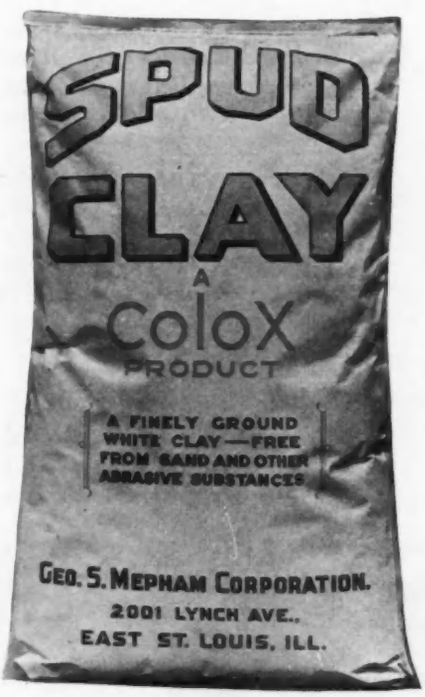
As with other chemical compounds used for the reduction of viscosity, various strength solutions are required

for treating muds of different compositions. An average solution for treating formational muds being:

Water . . . . . 50 gallons
Caustic Soda . . . . . 3 pounds
Meptol . . . . . 5 pounds

Other formulae cover a range up to 10 pounds of caustic soda and 10 pounds of Meptol to 50 gallons of water.

Application should be direct to the



mud as it comes from the flow line. The solution should be added in quantities sufficient to empty the drum in 40 minutes to one hour.

Meptol is packed in cartons holding five pounds, net weight. Six cartons to the case.

▪ *Spud Clay*

A finely ground white clay, free from sand and other abrasive substances. Is a good lubricant in drilling mud, is non-settling and builds a good wall.

Stands up well under adverse conditions. Spud Clay is not affected by anhydrite and salt states the manufacturer. Consequently gas cutting and air cutting will not be great.

Makes mud of good viscosity, even at high concentrations. A general utility clay; for spudding in and all other work where weight is not required.

Haynes Stellite Company

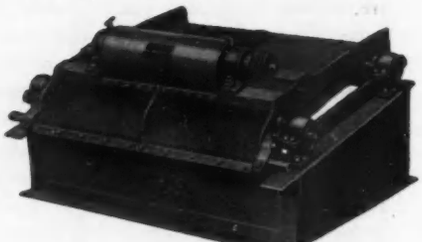
▪ *Hard-Facing Materials*

Haynes Stellite Company, Kokomo, Indiana, is demonstrating the use of a full line of non-ferrous hard-facing materials including Haynes Stellite and Haystellite. The application of these materials to oil field uses is being fully explained. Hastelloy, a corrosion resistant alloy also will be shown and demonstrated.

Vernon Tool Co., Ltd.

▪ *Vibrating Mud Screen*

Vernon Tool Company, Limited, Los Angeles, California, is displaying the McNeely vibrating mud screen. This



McNeely Vibrating Mud Screen

simplified screen for reclaiming rotary mud features: curved screen surface which facilitates the rapid disposal of waste cuttings; a vibrating force which is transmitted equally to all parts of the screen, eliminating dead spots; and a compact and sturdy, all-steel, unit type of construction which saves ground space and head room, and makes installation and removal easy.

The Vernon display is an operating one.

ANNOUNCING LONGHORN VELO★

A True High Early Strength Portland Cement To Meet Today's Demands for Faster Concrete Construction

★ LONGHORN "VELO" is the result of improved processes of portland cement manufacture developed and patented by Dr. Carl Pontoppidan of Copenhagen, Denmark, chemist for one of the largest manufacturers of cement and cement-making machinery in the world. "VELO" has been manufactured and successfully used in Europe for many years, and in the United States for the past 5 years. The Republic Portland Cement Company has been licensed to manufacture "VELO" in Texas under the Pontoppidan patents, and under the direction of "VELO" chemists and engineers.

Facts about Longhorn "VELO"

LONGHORN "VELO" needs no special handling. The concrete is proportioned, mixed, placed and cured as usual, BUT CAN BE PUT INTO SERVICE IN 24 HOURS.

LONGHORN "VELO" is NOT "Quick-setting" Concrete made with LONGHORN "VELO" sets in practically the same time as that made with standard portland cement, but after it has set, IT GAINS ITS STRENGTH MANY TIMES MORE QUICKLY

No admixtures of any kind are required or used with LONGHORN "VELO". There is no change in standard methods other than using one bag of LONGHORN "VELO" in place of one bag of standard portland cement.

It is no longer necessary to wait for days and weeks for concrete to cure. With LONGHORN "VELO", concrete develops working strength in 24 HOURS.

LONGHORN VELO SAVES TIME AND MONEY IN OIL FIELD OPERATIONS

In the Oil Fields, where time is a vital factor, LONGHORN "VELO" finds innumerable uses from the cementing of wells to the quick construction of surface work. Wherever and whenever rapid completion and impermeability are demanded LONGHORN "VELO" saves time and money.

Concrete made with LONGHORN "VELO" under normal temperature conditions can safely be placed in use in 24 HOURS. LONGHORN "VELO" is guaranteed to meet and exceed A. S. T. M. specifications for High Early Strength Portland Cement (C 74-30T).

It is NOW available at a small additional cost. Telephone, wire or write us for full information about its advantages and economies.

REPUBLIC PORTLAND CEMENT CO.
Manufacturers of "LONGHORN PORTLAND CEMENT"
Offices: SMITH-YOUNG TOWER - SAN ANTONIO, TEXAS

P102

Abercrombie Pump Co.

▪ *Slush Pump*

Abercrombie Pump Company, Houston, will show the "Fluid-Piston" slush pump. The model on display will represent the improvements made in field runs since introduction for tests approximately three years ago. Improvements made following field runs within the past year include a more rigid design than the original model, heavier valve seat covers and studs embodied in the construction, valve seats removable by hand, and a steel instead of a cast iron suction manifold. A strainer in the suction manifold (10 inches in diameter, 54 inches long) is a part of the pump, and is easily removable without breaking out manifold connections.

▪ *Shear-Relief Valves*

Abercrombie Pump Company also is exhibiting the patented shear-relief valves which relieves over-pressures by the shearing of a nail. The high-pressure valve for slush pump service and the low pressure valve for gathering pumps and similar service are on display. Pressure against a specially designed rubber piston is relieved at a set point by the shearing of a common wire nail set in the hardened stainless steel valve stem. Each valve has on its name plate a table listing nail sizes and the pressure at which each nail size shears; also a nail gauge to avoid any mistake on the operator's part as to nail sizes. Design of this valve and its seating arrangement is such that it cannot leak when closed. A special rubber lip design presses the piston harder against the stainless steel wall as pressure increases. Relief comes instantly when the nail shears, the piston traveling across valve body, entirely out of the way of the fluid flow, eliminating possibility of abrasion. Interior of valve body is of circular design, creating swirling motion of released fluid so as to keep the valve cleaned. Loss of the sheared nail is the only damage done when the valve releases pressure.

R-F Electrical Manufacturing Company

▪ *Frost Vertical Turbine Generator*

The Frost vertical turbine generator, manufactured by the R-F Electrical Manufacturing Company, Shawnee, Oklahoma, has been designed primarily for oil field use. It is a small steam turbine generator made on the vertical principle. This style of construction, according to the manufacturers, gains the advantages of two natural laws: the lifting power of the exhaust steam under the turbine wheel tending to overcome the power of gravity, thus to a large measure relieving the step bearing load on the bearings; and the top-like or gyroscopic action of the entire revolving shaft and armature assembly tending to center down to a smooth running, vibrationless centrifugal action, further relieving bearing wear through lack of lateral motion.

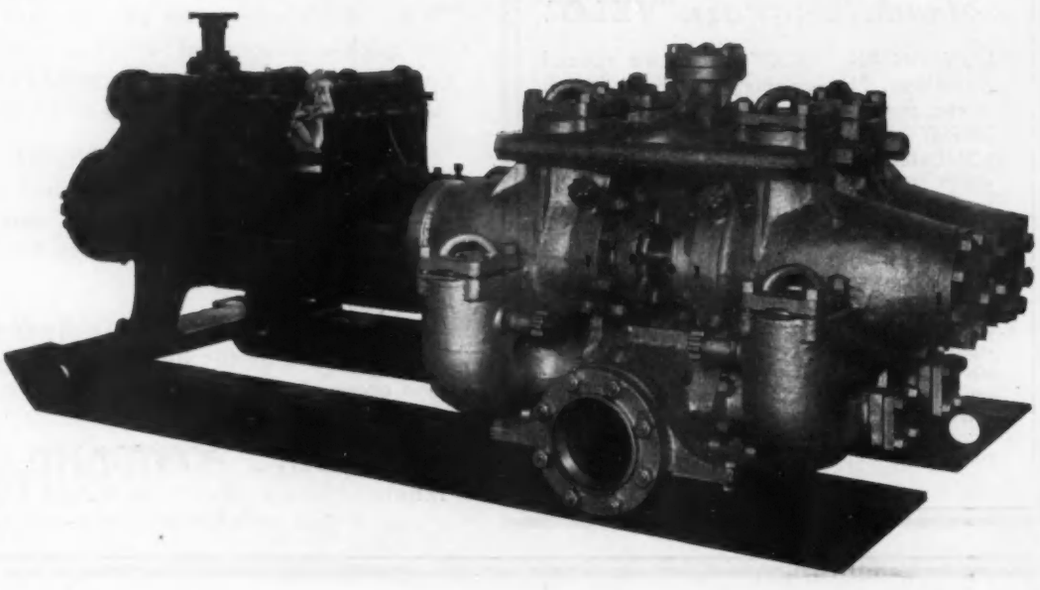
This generator has a positive forced draft air circulation from end to end. By its unique construction, with the present ventilated dome top, there is a constant stream of cooling air playing over the generating assembly and thence onto the turbine body, making for cool operation and enhanced efficiency.

The Frost vertical turbine generator is manufactured in four sizes, 1½, 2¼, 3¼ and 4 kilowatt.

The generator is being shown in the booth of Bettis Sales Company, Houston, Texas, which firm is the Louisiana and Texas Gulf Coast distributors.

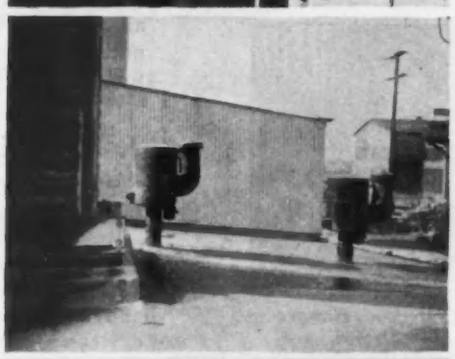
Above: Shear Relief Valve

Right: Fluid-Piston Slush Pump

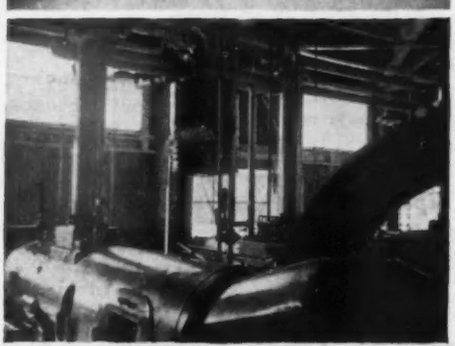


Peek in the WINDOW!

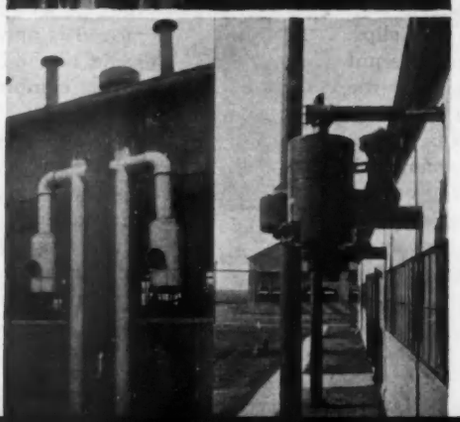
The Birch Oil Company, Brea, California, uses Vortox Air Cleaners on Clark Brothers four and six cylinder Natural Gas Engines in a generator plant which makes electricity for pumping their wells.



Installation of Vortox Air Cleaners on the roof of a building housing two Ingersoll-Rand Air Compressors.



Installation of a Vortox Air Cleaner on a Clark 2 cylinder, 2 cycle, 220 H.P. engine, in the natural gas compressor station of the Union Oil Company at Santa Fe Springs, California.



(Left) Sinclair-Prairie Oil Company's gas compressor station, Willow Springs, East Texas. Note the Vortox Air Cleaners.

(Right) Natural Gas Pipe Line Company's booster plant at Minneola, Kansas. The Cooper-Bessemer 650 H.P. vertical cylinder engines are equipped with Vortox Air Cleaners. This installation is on one of the largest and longest natural gas pipe lines in the world.

Peek in the Window!

You'll see exactly what happens to dust-laden air when your engine is protected by a Vortox Air Cleaner installation. The Vortox exhibit at the Oil Show features a working cleaner model built with large windows. Provision is made for creating a dust cloud which is drawn into the cleaner. Visitors can watch the cleaning process and observe clean air being exhausted from the unit.

A complete line of Vortox Cleaners suitable for all types of internal combustion engines and air compressors is being displayed. These include units for gasoline, natural gas, and Diesel applications. Don't miss this active exhibit at the Oil Show in Booth 612!

VORTOX
MANUFACTURING COMPANY

Claremont VORTOX California

Gulf Coast Distributors

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WAUKESHA MOTOR CO. MIDCONTINENT
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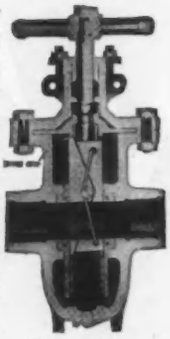
EQUIPMENT Featured at Oil Equipment & Engineering Exposition

W-K-M Company

▪ *Gate Valve*

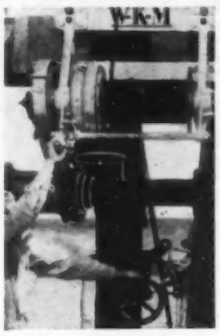
W-K-M Company is exhibiting the through-conduit lubricated gate valve, which offers the operator easy opening and closing as well as protection of valve parts against corrosion, rust and scale formation through the lubrication feature of a grease packed body. The parallel expanding gate in this valve effects a positive seal on both sides, regardless of amount of pressure against it. The design causes the valve to clean itself with each operation, and a smooth, streamline flow-way is provided upon opening. The extra large bronze seats are quickly renewable. Sealing rings serve to hold the grease.



Gate Valve

▪ *Cat-Line Winch*

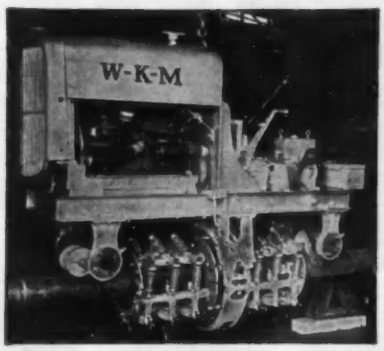
The W-K-M safety cat-line winch, on display, was designed primarily to protect members of the drilling crew against accidents so common in working around a cat-line. It is installed on the headboard above the driller, with controls within easy reach. The driller handles both the throttle and winch controls. The winch drive is from the line shaft through a positive jaw clutch, and winch drum drive through a planetary clutch. It is equipped with a quick-acting screw-operated brake fitted with special moulded lining. Drum capacity is 590 feet of ½-inch soft-laid preformed wire line. The winch is equipped with drum and drum shaft bearings.



W-K-M Cat-Line Winch

▪ *Pipe Cleaning Machine*

The W-K-M Model "B" portable pipe cleaning machine, being displayed, travels along the made-up line at variable speeds under its own power, cleaning two or more miles daily. It has a double cleaning head containing more than 300 toothed cutter wheels, which produce a chipping action, removing scale, rust, dirt, etc. A series of steel wire brushes then brush pipe to a clean, bright surface. Special scraper knives remove felt or wrapping. The machine is readily convertible from one size to another by simple adjustments, or from traveling to stationary cleaning machine.



W-K-M Pipe Cleaning Machine

▪ *Rod Hanger*

This rod hanger is designed to save considerable rod pulling time compared to the obsolete method of laying rod joints down on oil soaked rod walks. It keeps the rods away from sand and grit, prevents kinking and unnecessary breakage. It represents a modern, flexible means of safety suspending sucker rods as they are pulled from the well.

W-K-M Rod Hanger

▪ *Friction Slips*

The W-K-M friction type rotary slips employ no bolts or nuts, and are highly flexible. The replacement of a segment renews the slips, since the cage does not contact the pipe or the rotary table bushing. The cage design prevents one segment riding higher than others. Steel in the segments is of one-piece drop forging, heat treated.

W-K-M Friction Slips

▪ *Rotary Slips*

Each drop-forged, heat-treated segment in the W-K-M rotary (toothed-type) slips is independent of the others, permitting flexibility in all directions. These slips have undergone consistent improvement for 14 years.

W-K-M Rotary Slips

Tubing Slips

▪ *Tubing Slips*

W-K-M tubing slips are built in regular type for medium depths and deep-well type for handling the longest strings run today. One man handles the set, which is made in both four-segment and six-segment construction, all forged steel. The design eliminates one elevator and one pair of tongs.

J. P. Ratigan

▪ *Pumping Units, Rod and Tubing Accessories*

J. P. Ratigan, Los Angeles, has on display some of his regular equipment and a number of new and improved devices. These devices consist of rod hooks, new and improved tubing tongs, two different designs of tubing tongs and coupling wrenches for any make or size sucker rods.

Ratigan also is showing a combination rod guide and paraffin scraper that is designed to be as close a fit as possible in the inside of the tubing. It shaves the walls of the tubing, both going into and coming out.

An inexpensive tubing guide so designed that it cannot come off the tubing without being purposely removed is another Ratigan exhibit. The same method of securing it is applied to the combination rod guide and paraffin scraper. The principal function of this tubing guide is to protect the collars from wearing on the tubing. It is one half inch larger in diameter than the collar.

A newly designed rod hanger also is on display.

REDUCE

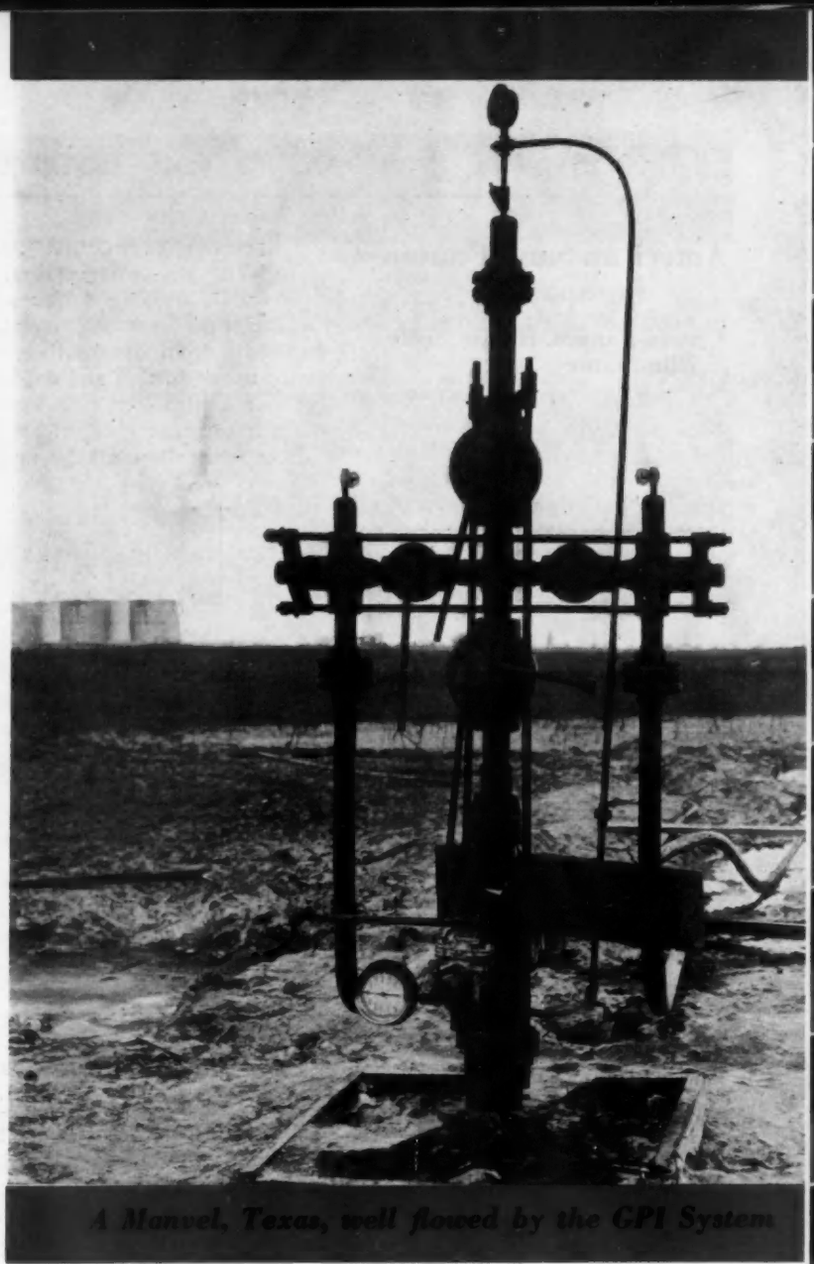
GAS-OIL RATIOS
WATER-OIL RATIOS
OPERATING PRESSURES
TOTAL LIFTING COSTS

By the

SOUNDNESS of DESIGN

and our Experience in Handling Flowing Wells through the

GPI SYSTEM



A Manvel, Texas, well flowed by the GPI System

We own the well-known Taylor-Greenlee Patents, as follows:

1,312,442	1,572,331
1,310,615	1,572,332
1,509,323	1,572,333
1,526,723	1,738,974
1,572,329	1,777,536
1,572,330	1,803,683

HOUSTON APR. 8-13 SEE OUR EXHIBIT OIL EQUIPMENT & ENGINEERING EXPOSITION

Other Patents Pending

Gas Power-Incorporated

MFRS OF PATENTED GAS FLOWING EQUIPMENT
AND PETROLEUM EQUIPMENT SPECIALTIES

MANUFACTURED
SAN ANTONIO, TEXAS

GPI SYSTEM

SALES OFFICE
ESPERSON BUILDING

HOUSTON, TEXAS

↓

Write for Well Characteristics Questionnaire

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

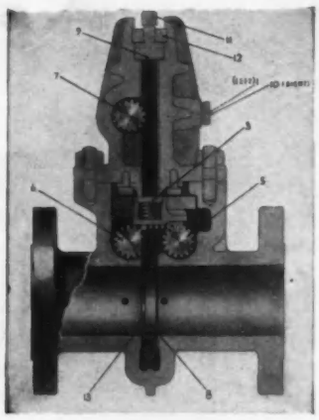
American Sand-Banum Company

▪ ***Sand-Banum Boiler Scale Eliminator***

American Sand-Banum Company, New York City, is exhibiting its pure colloidal concentrate for boiler scale elimination and control. This product does not contain any ammonia, graphite, water-glass, soda, lye, acid, potash, chloride, etc., and does not react in a chemical sense with the feed water. Sand-Banum is absolutely harmless to all equipment and persons. It is packaged 16 ounces to a can, and each can is sufficient to treat a 250-horsepower boiler for one month. Sand-Banum does not break old scale down in large chunks, but produces a spongy disintegration (colloidal dispersion) of the scale and gradually dissolves whatever formation has accumulated. And in the presence of Sand-Banum, new scale cannot be formed because this preparation forms an invisible layer of colloids enveloping every particle of scale-forming ingredients. This film, on every grain of scale matter, prevents crystallization, and by keeping these substances in suspension permits of their being removed from the boiler in the course of the regular blow-off. It is applied only one to four times a month; prevents priming and foaming, does not carry over with the steam and makes unnecessary the practice of water analyses and chemical treatment.

▪ ***Sand-Banum Blue Seal Emulsion***

Also on exhibit is the Blue Seal Emulsion which is a specific emulsified adaptation of the "regular" product, for the prevention and removal of scale and corrosion in water cooling systems. It likewise is guaranteed absolutely harmless and comes ready to use in approximately two-pound cans. Its use insures the maximum efficient operation of internal combustion engines, gas compressors, condensers, etc. By keeping surfaces clean, it not only prevents the metal of cylinder walls from overheating, which would cause distortion and decreased strength but it also keeps the walls at a temperature sufficiently low so that proper lubrication can be maintained.



Daniel Orifice Fitting

Daniel Orifice Fitting Co.

▪ ***Fittings and Flanges***

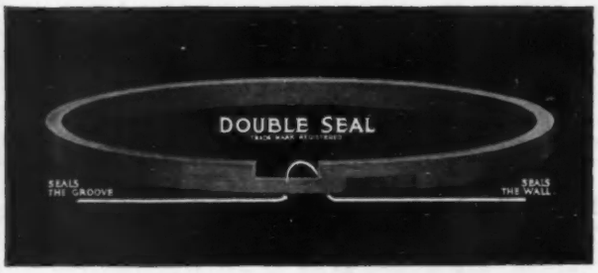
Daniel Orifice Fitting Company, Los Angeles, California, is displaying in the booth of M. N. Dannenbaum Company of Houston a line of new, improved orifice fittings, meter flanges, and associated specialties.

Double Seal Ring Company

▪ ***Piston Rings***

Double Seal Ring Company, Fort Worth, Texas, has a working exhibit showing the function of double seal rings.

The double seal rings on exhibit feature a design permitting sealing the gap against the wall of the cylinder and against the piston groove, even when the gap is opened from piston wear.

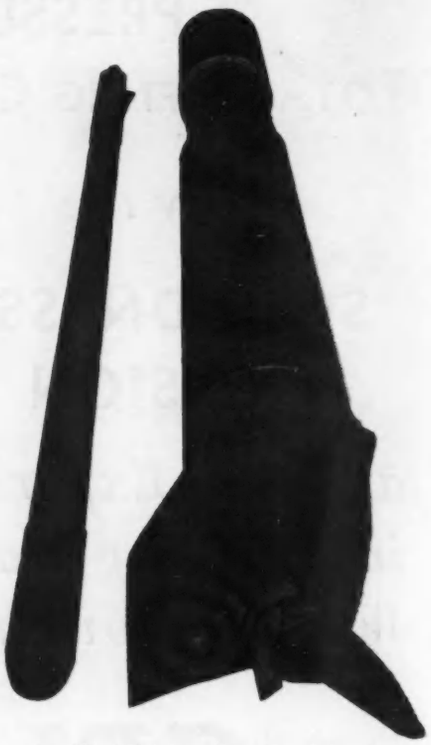


One Piece "Double Seal" Piston Ring

Authorized Appleman Bit Service Company

▪ ***Wire Line Core Barrel***

Authorized Appleman Bit Service Company, Houston, is displaying the Hunt wire line core barrel, a method of coring and recovering the core through drill pipe by wire line. The Hunt barrel seats in the core bit rather than running through it, and the cutting member is built integral with the bit to eliminate the load strain from the barrel, since it merely receives the core after it has been cut. On each side of the cutting member is an opening permitting cuttings to be washed out in circulation when a core is not being taken. When the barrel is dropped for a core and seats in the bit these openings are closed by the barrel, throwing full circulation through the bit water courses. It is not necessary to come out of the hole and change from core bit to regular drill bit between coring points. The core is speedily withdrawn through drill pipe by an overshot on the wire line. While coring, the barrel is latched securely in the drill collar, which is furnished as regular equipment on the Hunt barrel.



Hunt Wire Line Core Barrel

"Which Valve have you installed on your important Oil Field Operations?"

"DARLING OF COURSE"

Darling Valves **operate easily!** Darling Valves **wear evenly!** Darling Valves **stay tight!** For well or pipe line—for various pressure requirements—you'll find a Darling Valve to meet your needs with greater efficiency and economy. Write for complete details.

Darling Valve & Manufacturing Co.
Williamsport, Penna.

NEW YORK — OKLAHOMA CITY — HOUSTON

Mid-Continent Distributors:
International Supply Co.
Moorlane Company

California Distributors:
Hickey Pipe & Supply Company
3375 East Slauson Avenue
Los Angeles, Calif.

DARLING GATE VALVES

The Vellumoid Company

▪ ***Sheet Packing and Gaskets***

The Vellumoid Company, Worcester, Mass., is displaying Vellumoid sheet packing and Vellumoid gaskets for oil, gasoline and water connections. The purpose of Vellumoid is to make permanently tight all connections.

Manufacturers claim it is unaffected by contact with oils or water, and stands any temperatures up to 350 degrees Fahrenheit.

When the bolts are tightened on a Vellumoid connection, the Vellumoid gasket is compressed, filling the irregularities in the flanges, and making a tight connection. No shellac is required with Vellumoid.

The Duff-Norton Manufacturing Company

▪ ***Automatic Jacks***

The Duff-Norton Manufacturing Company, Pittsburgh, Pennsylvania, is exhibiting a complete line of automatic lowering jacks for oil field service. Included in the exhibit is the new line of simplified mechanism automatic lowering jacks with the self contained spring actuated one piece mechanism, just recently placed upon the market and designed especially to meet the oil field demand for a simplified mechanism that would stand terrific abuse such as lifting jacks are subjected to in oil field operation.

Special attention is called to the new general purpose jack illustrated herewith. This is a veritable jack of all work. Combines straight lifting, chain lifting, hook lifting and foot lifting. The swivel base also permits useful lifting at various angles and including a positive locking latch for upright lifting. A one man jack with a multitude of uses in the oil field.

Duff Automatic Jack

W. H. Curtin & Company

▪ ***Hand Centrifuge***

W. H. Curtin & Company, Houston, is exhibiting a new improved type hand centrifuge for the determination of B. S. and W. in crude oil. This machine is ruggedly constructed, and the throw of the crank is so designed as to require the least effort on the part of the operator to maintain the proper speed during the test. The head and crank of the 100 c.c. type are interchangeable with those of the 15 c.c. machine.

▪ ***Six-Volt Electric Centrifuge***

W. H. Curtin & Company also is exhibiting a new model six-volt electric centrifuge designed to operate from an automobile battery. The machine may be mounted permanently in the gauger's automobile, or may be temporarily connected and removed from the car when not in use.

Curtin Electric Centrifuge

The Southern States Company, Inc.

▪ ***Removable Bottom-Hole Chokes***

The Southern States Company, Inc., Dallas, Texas, has on display its line of Otis Removable Bottom-Hole Chokes for use in controlling at the lower end of the tubing the rate of delivery from high pressure wells. This choke is run into and removed from the tubing under pressure on a Halliburton measuring line without disturbing the tubing.

Left: Curtin Hand Centrifuge, and right: Otis Removable Bottom-Hole Choke

THE second edition of this valuable 36 page booklet is just off the press. It presents the most complete and up-to-date information on hard-setting and hard-facing oil well drilling tools. It describes in detail how straight hole and maximum footage per round trip are obtained with bits properly set and faced with Haystellite inserts and Haystellite Composite Rod. A limited number of these booklets is now available. A copy will be sent you on request.

PRODUCT OF A UNIT OF UCC UNION CARBIDE AND CARBON CORPORATION

HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

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Haynes Stellite Welding Rods and information on other Haynes Stellite Products also are available through the 42 apparatus shipping points of The Linde Air Products Co.

HAYSTELLITE TRADE MARK

The cast Tungsten Carbide Diamond Substitute

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

American Hammered Piston Ring Company

▪ ***Piston Rings***

American Hammered Piston Ring Company, Baltimore, Maryland, exhibits new types of piston rings for

American Hammered Piston Ring

oil industry service, and has a demonstrator showing latest methods of oil control in high speed Diesels.

Included in the display are recent developments in multiple piece piston rings for out-of-round and tapered cylinders.

New handbooks on piston rings are available at the booth for operating engineers.

Eason & Therolf Tool Company

Eason & Therolf Tool Company, Los Nietos, California, is exhibiting in T. T. Word Supply Company booth a line of valves, valve pullers, and related equipment, featuring an all steel valve.

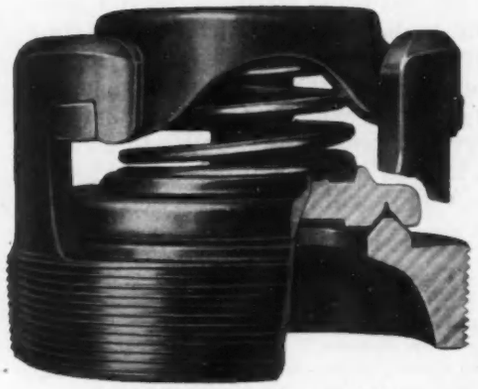
▪ ***All Steel Valve***

The E. & T. all steel, self-cleaning valve was designed for deep drilling conditions, and is made for slush pumps, for water, for oil, cement, acid, boiler feed, or for any pump of the plunger type which handles liquids or semi-liquids. The valve uses no rubber or other insert. Valve, valve stem and wing guide are cast in one piece of special alloy steel and heat treated.

E. & T. Allsteel Valve

▪ ***Quick Change Valve***

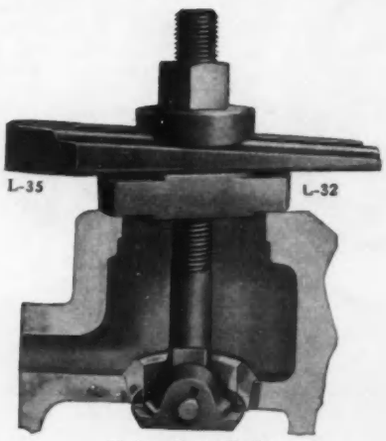
Eason & Therolf's quick change valve on display is a design which eliminates all nuts, studs, stems, cages and threads. One feature of the valve is that no wrenches are required to assemble or disassemble it. A cross bar in the seat is provided for installing valves of the screw type. Quick change valves, unless specially ordered, are made of a bronze alloy chosen for high tensile strength, toughness, and abrasive resistance. The sping in the valve is of large diameter and made of heavy gauge spring wire. Unless otherwise specified, it is oil tempered.



E. & T. Quick Change Valve

▪ ***Valve Seat Puller***

Eason & Therolf also is showing a valve seat puller of simple and novel design. By changing the dog in the bottom, it can be used in any pump.



Valve Seat Puller

All parts are extra heavy. The stem, L 33, and the wedge, L 35, and the pin and dogs, L 37, are made of special alloy steel. To pull seat and insert dog, adjust nut L 34 by hand to take up slack. Then drive in split wedge with sledge hammer.

The International Nickel Company, Inc.

▪ ***Nickel Alloys***

The International Nickel Company, Inc., New York, has on display samples of nickel alloys used in the oil fields. Several representatives are in attendance tc consult with oil equipment manufacturers and petroleum engineers on field problems.

Everlasting Valve Company

▪ ***Valves***

Everlasting Valve Company, Jersey City, New Jersey, exhibits a line of valves, but features the "Everlasting" valve.

This valve, commonly used boiler blow-off service, is simple and rugged in construction, operating on the principle of the passing of a disc over the outlet port of the valve. Contact surfaces of disc and seat and extension face are ground together to assure a seal. When moving across the outlet bonnet of the valve

The Everlasting Valve

from open to closed position, or vice-versa, the disc has a rotating motion, thus regrinding one to the other. The disc is held in position by a spring and moves into the closed position without any wedging action, and thus eliminates any possibility of mechanical injury to the sealing faces. The disc is held in constant contact with the sealing surface around the port and the extension of that sealing surface over which the disc slides, preventing grit from getting between the sealing faces of seat and disc.

NORMA-HOFFMANN BEARINGS CORPORATION

Precision Bearings for Oil Field and Refinery Equipment

Main Office and Factory:

STAMFORD, CONN., U. S. A.

Charlotte, N. C. Chicago Cleveland Cincinnati Detroit New York Pittsburgh

NORMA-HOFFMANN

Production at lower cost is the objective of every engineer and executive in the petroleum industries. This cost—as relating to machine equipment—includes power, lubrication, attendance, maintenance (repairs and replacements), and shut-down losses. * * * In new equipment designed to conform with these high-economy standards—as well as in the modernizing of old equipment, to the same end—**Norma-Hoffmann Precision Bearings** afford machine builders and petroleum engineers exceptional opportunities to realize savings on all the above cost items. * * * They are established in the petroleum industries because they provide the needed combination of load-ability, speed-ability and service-ability. In a wide range of field and refinery equipment, **Precision Bearings** are demonstrating their ability to "stand up" under the heaviest and most difficult service. Their performance is proving that, for low cost per bearing per year of service, they are unsurpassed in the antifriction bearing field.

APPLICATIONS IN OIL FIELD AND REFINERY EQUIPMENT

The following lists some of the types of field and refinery equipment in which **Precision Bearings** show outstanding advantages and economies:

Drilling Rigs
Crown Blocks
Traveling Blocks
Swivels
Draw Works
Winches
Clutch Pulleys
Rotary Drives
Pumping Powers
Band Wheel Powers
Reduction Gears
Pumps
Fans and Blowers
Engines and Turbines
Oil and Gas Engines
Air and Gas Compressors
Portable Power Units
Excavating Machinery
Motors
Generators

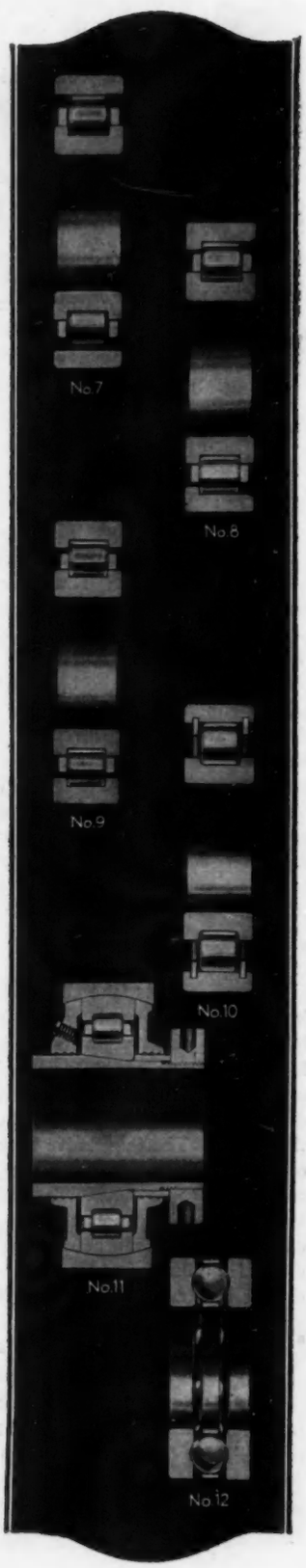
PRECISION BEARINGS FOR EVERY LOAD, SPEED AND DUTY

No one type of bearing is so versatile in its operating characteristics that it will meet all conditions; the conditions should determine the type of bearing used. From the comprehensive **Norma-Hoffmann** line—here illustrated in part and briefly indexed—a **Precision** bearing, or several in combination, can be chosen that will be exactly right for the duty.

1—Open (separable) type ball bearing.
2—Closed radial type ball bearing.
3—Angular contact ball bearing.
4—Single-plate, grease-retaining, dirt-excluding ball bearing (available in double-plate type also).
5—"7000" Series "Greaseal" felt-protected ball bearing; available also with double felt seal, or with side plate.
6—Double-row, self-aligning ball bearing; also furnished with adapter sleeve and nut.
7—Standard cylindrical roller bearing.
8—One-lipped cylindrical roller bearing.
9—Two-lipped cylindrical roller bearing.
10—Full type (retaining ring) cylindrical roller bearing.
11—Self-aligning adapter type cylindrical roller bearing with grease retaining, dust-and-moisture-excluding side plates.
12—Ball thrust bearing.

ENGINEERING SERVICE AND PUBLICATIONS

If the utmost is to be realized from the use of antifriction bearings, they must not only be carefully chosen as to size and type, but must also be properly mounted and lubricated. Therefore, in applying **Precision** Bearings to your own machine—either as a specified part of new equipment, or for replacement or change-over in old equipment—let our engineers assist you with their highly specialized experience in bearing applications. This advisory service incurs no obligation, yet assures your satisfaction. Let us send you the Catalog, with engineering data.



Baash-Ross Tool Company

▪ *Safety Joint*

Baash-Ross Tool Company, Houston and Los Angeles, is exhibiting its line of fishing and drilling tools, including the regular safety joint. This safety joint is run in conjunction with fishing tools and consists of two parts joined by a heavy, non-locking thread. A square mating shoulder enables the joint to withstand any rotation to which the rest of the fishing string may be subjected, yet the design of the joining thread assures a ready release when the string is rotated in an unscrewing direction.

Regular Safety Joint

▪ *Autolock Safety Joint*

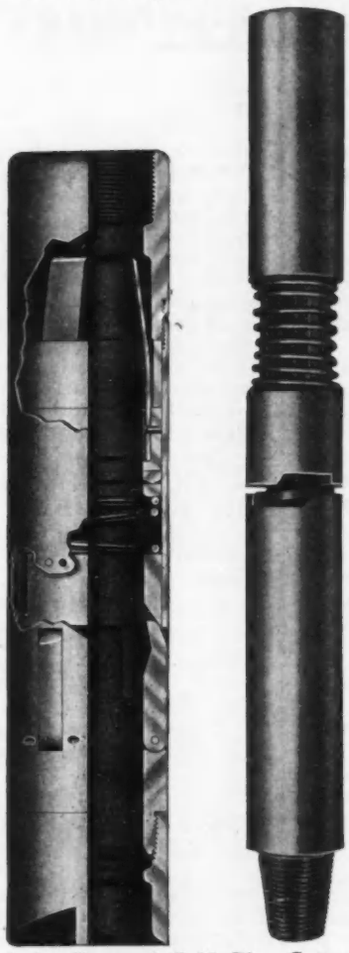
The Autolock safety joint, also on display, is designed to release with a small amount of torsional strain in an unscrewing direction. The two main parts of the safety joint are joined by a heavy non-locking thread. A bevelled shoulder on the back side of the bottom sub mates with a similar shoulder on the sleeve on the top sub. The degree of bevel and strength of the spring above the sleeve are so proportioned that unlocking occurs only with a predetermined strain. This assures ample resistance in an unscrewing direction for the operation of fishing tools, yet prevents accidental release of the joint.

▪ *Knife Perforator*

Also shown is the Baash-Ross long knife perforator used with rotary or cable tools. The perforator is run to the lowest point to be perforated where the tail piece is tripped. This releases the drag knife which engages the wall of the casing. The long knife is then forced out through the casing by the weight of the drill pipe or by blow of a jar. The long knife will penetrate two strings of casing with cement between them. Any desired number of holes may be punched during one run of the tool.

▪ *Internal Casing and Tubing Cutter*

Baash-Ross is showing its internal casing and tubing cutter. The cutter is run on drill pipe or tubing to the point where the lowest cut is to be made. The slips are set by right hand rotation and the knives pressed into contact with the casing. Cutting is accomplished by continued rotation. A number of cuts are made in one run, the cut-off pieces being later recovered with a spear or other tool.



Left: External Drill Pipe Cutter. Right: Autolock Safety Joint.

▪ *External Drill Pipe Cutter*

The external drill pipe cutter shown by Baash-Ross Tool Company is run on wash pipe and passed over the stuck drill pipe to the washed down depth, then raised until the overshot dogs contact a tool joint or coupling. An upward strain presses the knives inward against the drill pipe. Slow right hand rotation completes the cutting operation, after which the fishing string is withdrawn with the cut-off portion of the pipe held by the overshot dogs. A slip assembly is substituted for the overshot assembly when cutting external flush joint drill pipe.

▪ *Rotary Releasing Spear*

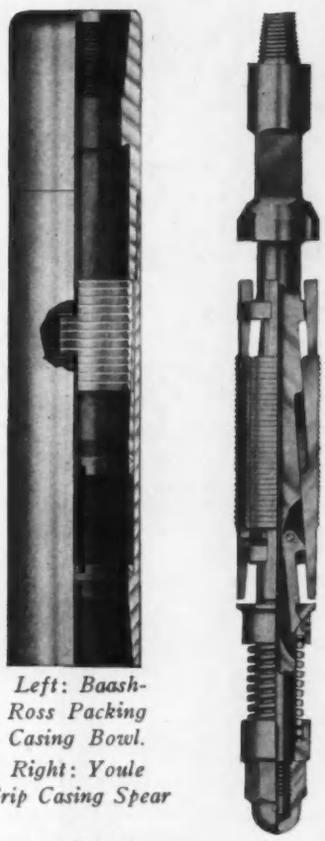
Extra long slips which act in unison and provide a maximum gripping area distinguish the Baash-Ross Rotary releasing spear on display. The slips are solidly supported by the stepped flat surface on the mandrel. The slips are set by left hand rotation. To release the slips, the spear is lowered and rotated to the right.

▪ *Liner Hangers*

Two types of Liner Hangers are being displayed. The lead-seal packing type is used above a perforated liner to provide a permanent seal against the casing. The plain type is used when support only is required for the liner.

▪ *Packing Casing Bowl*

Included in the Baash-Ross exhibit is the packing casing bowl. When a defective section of casing has been removed, leaving a quantity of sound casing standing the hole, this bowl is screwed on the string to be run. It is then passed over the casing in the hole. The slip is engaged and an upward strain taken to squeeze the lead rings into tight contact with the casing, effecting a permanent, fluid tight seal.



Left: Baash-Ross Packing Casing Bowl. Right: Youle Trip Casing Spear

▪ *Youle Trip Spear*

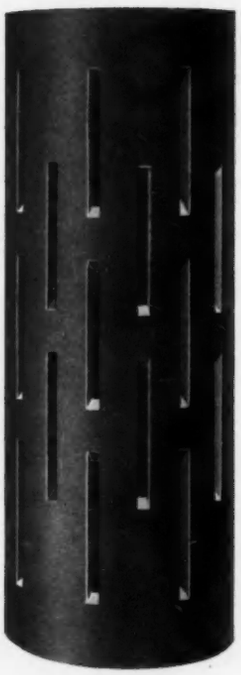
The Youle trip spear being shown is designed for use with cable tools. Long slips are solidly packed by the stepped mandrel. Before being run in the hole the slips are set in a contracted position. The slips are caused to grip the casing by a quick upward motion and retain their hold as long as an upward strain is maintained. To release, the

first to Introduce

VERTICAL SLOTTED WIRE WRAPPED SCREEN

Regardless of what you may hear, EMSCO was the FIRST to advance the idea of slotting pipe for Wire Wrapped Screen

50% More Opening at No Extra Cost in this Superior Product



EMSCO Vertical Slotted Wire Wrapped Screen is now made with ¼″ x 3″ slots for standard slotting. Slots were formerly 2 inches long, but in tests it was found that they could be made 3 inches long without weakening the pipe any more than the 2″ slot. This 1″ additional length adds 50% more opening. For example, EMSCO formerly slotted 5″ O.D. pipe with 24 ¼″ x 2″ slots or drilled 108 ⅜″ round holes for standard slotting or drilling, the 24 ¼″ x 2″ slots having an opening of 12 square inches per foot, and the 108 ⅜″ round holes having an opening of 11.9 square inches per foot. The new slotting of 24 ¼″ x 3″ slots per foot has an opening of 18 square inches per foot, or the equivalent of 162 ⅜″ round holes.

In the last 12 months many wells have been screened with EMSCO *DOUBLE SLOTTED* SCREEN, or twice the number of standard slots in the pipe. Again taking 5″ O.D. pipe for comparison, we have 48 ¼″ x 3″ slots per foot, or an inlet area of 36 square inches per foot . . . . total opening equivalent to 327 ⅜″ holes.

As a matter of test a major operator recently ran a joint of 5″ O.D. 18-lb. Grade "C" seamless steel casing slotted with 90 ¼″ x 3″ slots per foot, or nearly four times the number of standard slotting. The joint was run in a 5100′ well that had been cemented, and 63,900 pounds of drill pipe set down on it. The O.D. of this pipe was calipered every 12 inches the full length of the joint before going in and after coming out of the hole. The measurements were the same in both instances.

EMSCO
SCREEN PIPE CO.
HOUSTON, TEXAS, U. S. A.

EXPORT OFFICE: 30 Rockefeller Plaza, New York City
LONDON OFFICE: Room 17, Coventry House, South Place, London, E. C. 2
DISTRIBUTOR: Houston Oil Field Material Co., Houston, Texas

WHITE LINES BELOW REPRESENT ACTUAL GAUGE IN THOUSANDTHS OF AN INCH IN WIDTH

.006″	.008″	.010″	.012″	.014″	.016″	.020″	.030″	.040″	.060″	.080″	.100″
6 Gauge	8 Gauge	10 Gauge	12 Gauge	14 Gauge	16 Gauge	20 Gauge	30 Gauge	40 Gauge	60 Gauge	80 Gauge	100 Gauge

spear is lowered, the coil spring returning the slips to the free position.

▪ *Crown Block*

A true-to-scale model of the Baash-Ross roller bearing drilling crown block will illustrate how the heaviest loads encountered in deep drilling are safely carried. This block fits any regular derrick and installation time is hours less than required for many types of blocks. Each sheave runs on its own roller bearing assembly and grease holes drilled in the center pin provide individual lubrication. Proper design directs the loads exactly in the center of each sheave groove. Baash-Ross blocks are made in standard sizes, and also to meet individual specifications.

▪ *Blowout Preventer*

The Baash-Ross blowout preventer has steel body screws into the top casing coupling and either of two body assemblies are conveniently suspended ready to be swung and locked around the drill pipe and dropped into position. The weight of the drilling string expands the packing element to insure complete safety. A slip type is furnished for use with flush joint pipe, and various designs meet every individual requirement.

Baash-Ross Blowout Preventer

Blowout Preventer Packing Assembly

▪ *Upset Kelly*

Baash-Ross forged upset kellys are made with an integral, gradual taper, so strong that failure is practically impossible, states the manufacturer. Each kelly is made from a one-piece forging pressed under dies to true sizes, then bored so true that a five-foot test bar, only ⅛-inch less in diameter than the circulation hole, will pass freely through.

▪ *Rotary Jar*

Actual demonstration of the Baash-Ross improved Kammerdiner automatic torque-controlled rotary jar will prove interesting to operators confronted with an occasional fishing job. Right hand rotation creates a torque which is held by locking the rotary table or using a tong. An upward strain trips the jar, which is then lowered to set it for the next blow. The force of the jarring blow is easily adjusted, and is not thereafter affected by the condition of the hole. As many as eight blows per minute can be obtained.

▪ *Releasing Socket*

In fishing for lost drill pipe or casing the top of the pipe in the hole is frequently so battered or twisted it is impossible to use a spear or a tap. The use of a Baash-Ross rotary releasing socket to secure a firm (but releasable) grip on the exterior surface of the fish, will be demonstrated by this company at the Exposition.

▪ *Tubing Head*

A combination casing head, packing spider and blowout preventer best describes the Baash-Ross quick acting tubing head. It is screwed on the outer casing and provides a positive means of packing off between casing and tubing. Side outlets in the body allows the gas, which ordinarily collects in this space, to be discharged and controlled. The design permits raising or lowering the tubing between couplings, making it unnecessary to cut special-length nipples.

Liner Setting.
1. *Mandrel*
2. *Adapter*

▪ *Liner Setting*

Greater safety in running a liner is assured by the use of the liner setter. The adapter, which is screwed on the top joint of the liner, is provided with T-slots to receive the lugs on the mandrel. The liner may be rotated to right or left, and the mandrel is easily released from the adapter when the liner is in place. The mandrel is also used to remove the liner when desired.

Lufkin Foundry & Machine Company

▪ *Twin Crank Reduction Geared Pumping Units*

Lufkin Twin Crank Unit

Lufkin Foundry & Machine Company, manufacturers of reduction geared pumping equipment, will exhibit a complete line of twin crank reduction geared units. The exhibition includes the following units, all which will be of the twin crank design:

T.C. No. 4-11; T.C. No. 3-22; T.C. No. 2-26; T.C. No. 151.

Lufkin twin crank units are manufactured in sizes from 10 to 60 horsepower, both single and double reduction herringbone gears, and with stroke lengths up to 72 inches.

The development of the Lufkin twin crank unit in the larger sizes followed the successful use of this type of equipment on shallow wells over water where they proved so practical that the design of heavier units was made necessary. Counterbalance capacities ranging as high as 16,000 pounds and polish rod load capacities to 25,000 pounds have been developed with this type of equipment. The Lufkin twin crank unit is adaptable to any type prime mover, and can be easily and inexpensively changed from one type to another if at any time desired. These units are simple in design, yet very rugged and strong in construction, and are well proportioned throughout. Torque strains, due to the twin or dual cranks, are evenly divided in the main shaft and therefore allow for these bearing pressures. All strains on the pitman are equalized by means of the full universal connection to the beam.

Lufkin twin crank units are made with the short beams and horse head, or with the regular Lufkin center line beam, all which equipment is fully described in the Composite Catalog of Oil Field Equipment, as well as in the new Lufkin No. 36 catalog.

M.I.W. STEEL DERRICKS

A thing of BEAUTY and.. .... *a PRACTICAL JOY to DRILLERS*

"MIW 120', 537,000 lb. capacity, on 7' substructure, sold to Jack Frazier and being used on the Hermann Hospital lease fifteen miles from Houston."

MUSKOGEE IRON WORKS

STEEL DESIGNERS — FABRICATORS — ERECTORS

1115 First Nat'l Bank Bldg.
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Muskogee, Oklahoma

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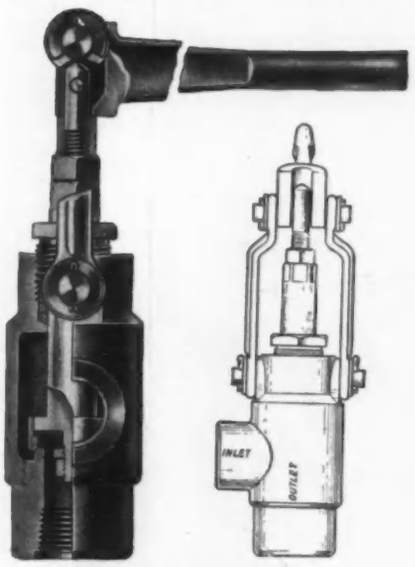
Houston, Texas

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

American Iron & Machine Works Company

▪ *American Release Valve*

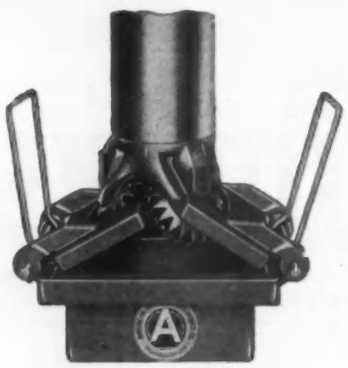
The latest product of American Iron & Machine Works Company, Oklahoma City, Oklahoma, is the American release valve, and is among its items on display. It is made with a piston and rubber composition valve and steel seat that does not have to be brought into a shop to be worked over. If the valve comes off, the bottom part is replaced and composition rubber valve replaced in retaining ring. The American release valve is designed so that cutting is practically eliminated.



American Release Valve

▪ *Breakout Block*

Made to set in the master bushing after pulling kelly bushings, which saves changing slips in the tongs as well as wear on side reamers. Will break the tightest joint. Wings can be furnished for this breakout block to break out any cone type, roller type, drag or fishtail bit. As bottom is completely closed, except for small drain holes, it keeps small tools from falling into the hole.



Break-Out Block

▪ *American Cone Fishing Socket*

This tool is made to catch worn or broken cones that cannot be caught with the cone fishing basket, which is made from a piece of pipe. The American cone fishing socket is made with slips placed in the bowl on a taper, bottom milled to cut any shale or boulder away and core ahead, forcing cones into the slips.

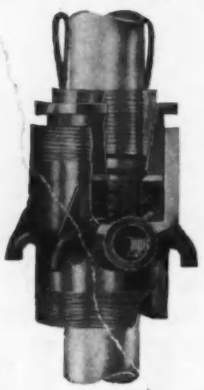
Rock Bit Cone Fishing Socket

▪ *American Milling Shoes*

American milling shoes, type E, type F and type D, are made to run on the bottom of the American overshot. The type F milling shoe is used where pipe or tool joint is broken off, leaving a rough edge. The type F milling shoe is to mill out junk that might be on outside of fish, or to wash over fish in case of tight hole. Where the pipe is in a cavity and wall hook cannot straighten it. American Iron milling shoes can be run on bottom of overshot to mill over the pipe and at the same time overshot will take hold of the fish.

▪ *Casing Suspender and Blowout Preventer*

This device was developed for use in fields where high pressure is a hazard and where there are more than one oil sand. It is possible to suspend casing at any point in the hole, as lips are full circle and do not cause a crimping, or egg shape, place in casing. Packing consists of three rings of composition packing that is tested for salt water and other ingredients encountered in different oil fields. Fireproof packing is furnished on order.



American Casing Suspender and Blowout Preventer

The American casing suspender and blowout preventer has four tie down lugs cast on the sides to be used with the American tie down flange, or other methods of tieing down. It is tested to 5000 pounds.

▪ *American Flexible Coupling for Rock Bit Lubricators*

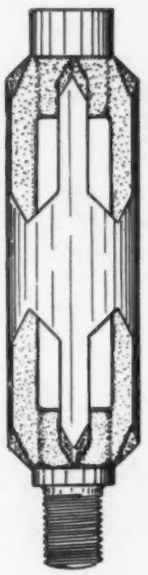
Quite often vibration breaks lubricators off just above the rock bit cage. The American flexible coupling for rock bit lubricators was developed to prevent this trouble. One end fits on lubricator and the other on a rock bit cage.

It is made with packing on stem and on dished cup which prevents fluid from cutting, also flexible enough to take care of any vibration. There is a hole in the cup to screw in any plug for regulating crater compound.

Flexible Coupling

▪ *Sucker Rod Coupling*

American "Fitz" sucker rod couplings have been designed to do a multitude of tasks. They can be used to clean out the paraffin in tubing. The number used depending on the hardness, volume and depth of the accumulation. They can be used for crooked holes to insure against tubing or rod wear. They will equalize the rod load because they start the fluid upward from the point they are placed on the rod. We recommend one coupling with a pony rod immediately above the traveling valve; this allows the traveling valve to drop more quickly and easily. Or they can be spaced out so that they will take the whip and slap out of the rods, keeping them from breaking. Made in one piece, of special heat treated steel, this coupling has much greater strength than the rod. It will not catch in the tubing.



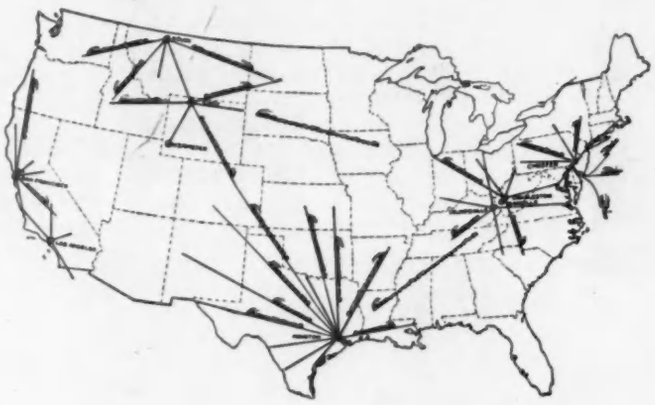
American Sucker Rod Coupling

▪ *American Female Die Nipples*

Quite often a drill stem is broken off where the overshot cannot take hold and the die nipple is then run to take hold. This die nipple is made in steps to take hold of pipe, coupling or tool joint. It is

24 Hour Service

From our strategically located distributing centers to your locations.



The movie illustrations show "Chester" casing being used in the East Texas Field.

These "shots" taken in the field furnish authentic testimony to the satisfactory performance of "Chester" Casing.

•

Chester also makes "Wrought" Iron pipe — manufactured from genuine old-fashioned hand puddled muck bar made in our mills from 100% pig iron.

SOUTH CHESTER TUBE COMPANY, Chester, Pa.

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Dunigan Tool and Supply Co., Main Office, Breckenridge, Tex. Branch stores, Willow Springs, Pampa, Turnertown and McCamey, Tex., and Hobbs, N. M.

Louisiana Supply Co., Sulphur and Brimstone, La.

Oil Field Equipment Co., San Antonio, Texas.

Okmulgee Supply Corporation, Okmulgee, Okla.

Stephen H. McCabe, 508 4th St., San Francisco, Calif.

Herley Supply Company 3006 Cherry Avenue, Long Beach, Calif.

Barde Steel Company, Seattle, Wash., and Portland, Ore.

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United Pipe & Supply Corp., Charleston, Danville, West Hamlin, W. Va.; Paintsville, Ashland, Allen, Prestonburg, Ky.

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CHESTER

STEEL CASING AND LINE PIPE

made with either tool box or drill pipe connection on top.

Releasing and Circulating Spear

Female Die Nipple

▪ *American Releasing and Circulating Spear*

This spear, made so as to pack off inside of broken drill pipe or casing, will withstand any amount of pressure and, if circulation can be broken through the fish. It is made with a hollow stem for circulation and with a one piece slip that expands by pulling up on drill stem when hold of fish. In case the fish cannot be pulled, just turn drill stem to right and slips pull away from mandrel and then come on out of hole. Set the slips to the inside diameter of fish to be caught, as the split slip allows same to contract when going into pipe.

This type spear is also popular for catching tubing, as it does not egg-shape pipe, due to the fact that the slips are a full circle. The American Iron spear can be pulled from pipe on the derrick floor.

American Flow Packer

▪ *American Flowing and Pumping Packer*

This packer is run on tubing and is designed to allow fluid to pass through packer while running and does not have to be snubbed in, due to the equalizing of pressure. It has a tapered cut that seals to the wall of casing from absorption of fluid and pressure. In running, if the well is flowing or flows by heads, use a tubing oil saver, in that way flow can be diverted through casing to tanks.

When ready to set, a bolt about one inch by two feet long is dropped down tubing to break disc that holds up "A" valves, and then all oil on outside of tubing will drain back through "A" valves and leave outside of tubing dry.

When packer is to be pulled, there is no oil to combat, no mechanical appliances on packer to sand or corrode up. If well is about to be pumped, a common barrel is run below packer, run rods in and hook on the pump. This has, in most cases, allowed well to be pumped a few minutes and then they will flow balance of production. The well may be flowed by artificial pressure by forcing pressure down inside of casing and returning through "A" valve. It is suggested that a bull plug be placed on bottom joint and that joint be perforated and set near oil sand. Gas comes up through "B" valves and meets fluid at point in tubing and helps flow the well.

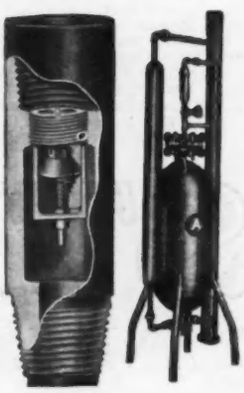
American Forged Steel Sub

▪ *American Forged Steel Subs*

These subs are made in three types. Type G and H to be used with overshot to connect from casing to tool joint. Type K is used for connecting up different sizes of pipe. American Iron and Machine Works Company also make subs for kellys and other connections that might be made on a drill stem. The type H sub is long enough to allow elevators and slips to take hold at the same time.

▪ *American Drill Pipe Float*

This is a drill pipe float designed to run in the string of drill pipe to break the fall of pipe, in case the pipe should part or break. It is also used for floating drill pipe into the hole. The American float is made so that the assembly can be milled out in case of stuck string, and then go down to top of fish and try to circulate.



Left: American Drill Pipe Float

Right: American Steam Lubricator

▪ *American Steam Lubricator*

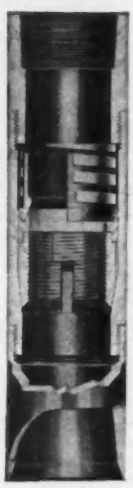
The American steam lubricator is made in 12 gallon size. It lubricates both engine and pump from one point. It is placed on the steam line near the boilers.

▪ *American Myracle Sucker Rod Socket*

Made with die nipple effect to catch pin that might be broken off in box or in upset. It also has slips to catch size sucker rod that is in use in different sizes of tubing.

▪ *Releasing and Circulating Overshot*

The American releasing and circulating overshot takes hold of fish, drill pipe or tool joint, and the rubber packer fits tight against fish, thereby allowing circulation through the bit, if it is possible to get circulation. In case fish cannot be pulled overshot can be released by letting tension off the drill stem, rotating to right about 10 times, pick up on pipe about two inches, then rotate to right and repeat until slips turn loose. Slips can be furnished for any size pipe or tool joint. This overshot can also be supplied in left hand type for backing off drill stem.



Left: Forged Steel Wall Hook

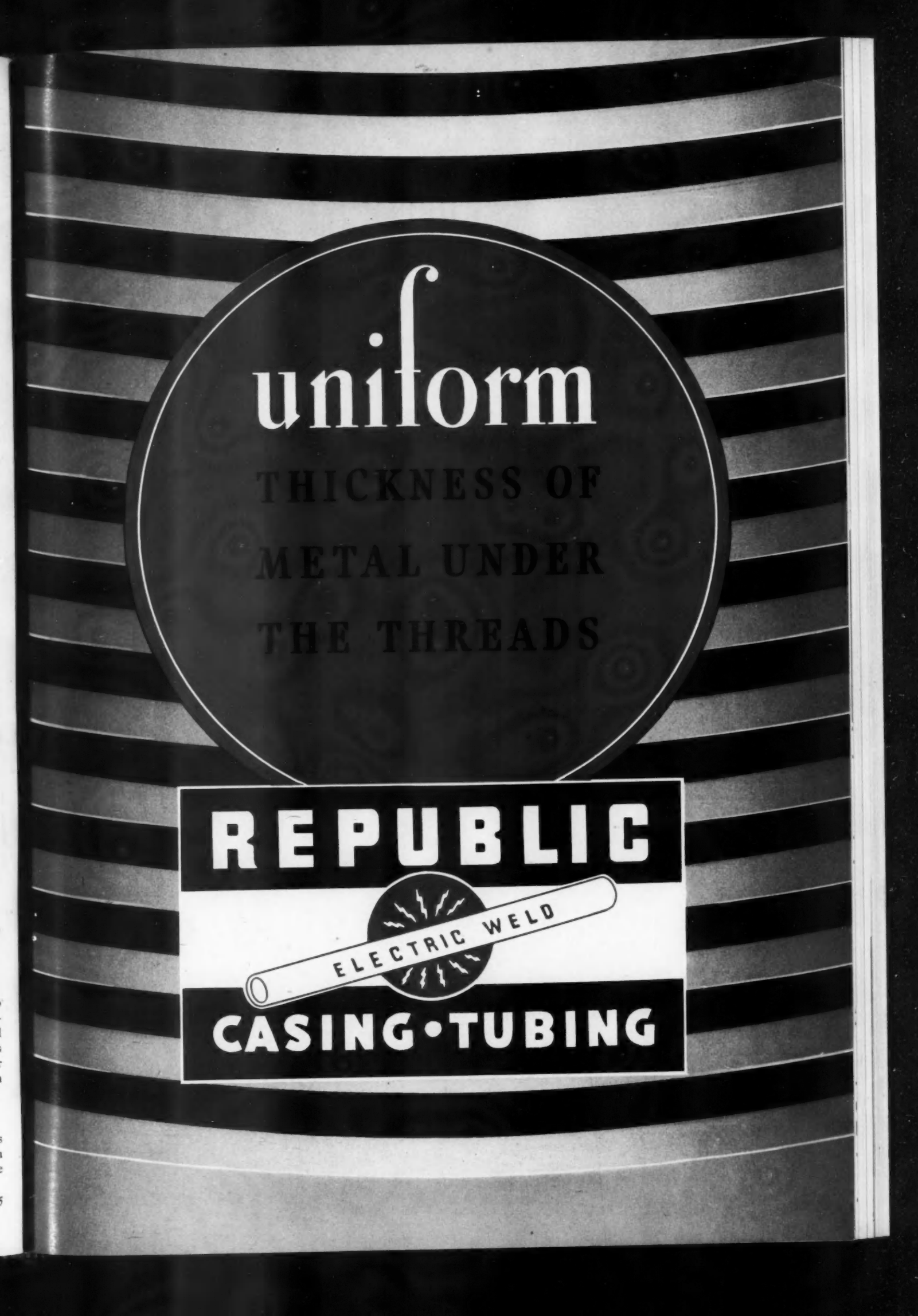
Right: Releasing and Circulating Overshot

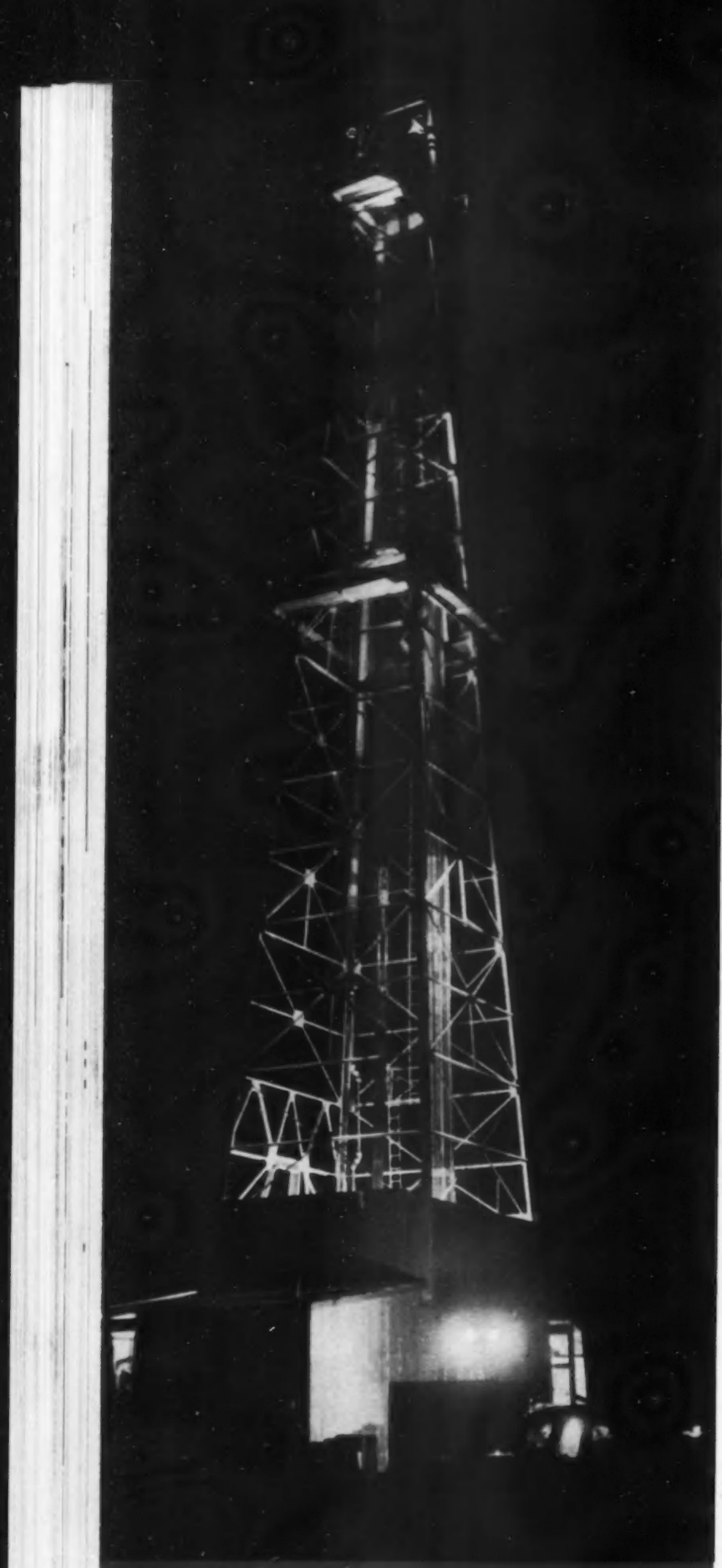
▪ *American Wall Hook*

The American Wall hook is made to run on the American overshot. It allows the pipe to be straigntened and the fish caught at the same time. It is necessary only to take the regular guide off the overshot and screw on the wall hook.

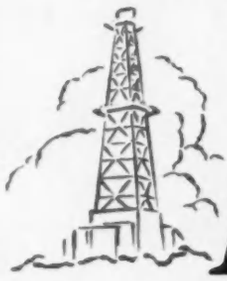
▪ *American Automatic Cathead*

The American automatic cathead is composed of only nine parts, five of which are working parts. These parts are made


uniform
THICKNESS OF
METAL UNDER
THE THREADS
REPUBLIC
ELECTRIC WELD
CASING • TUBING



Republic Steel
CORPORATION
GENERAL OFFICES · · · YOUNGSTOWN, OHIO



A CONTRAST BASED ON facts

It is difficult by the hot process method of pipe manufacture to produce a product that is truly round. Furthermore, the wall thickness will vary as much as 12½ per cent. When threads are cut on this pipe, they are not of uniform depth, and a variation in the thickness of metal under the threads is a natural conclusion.

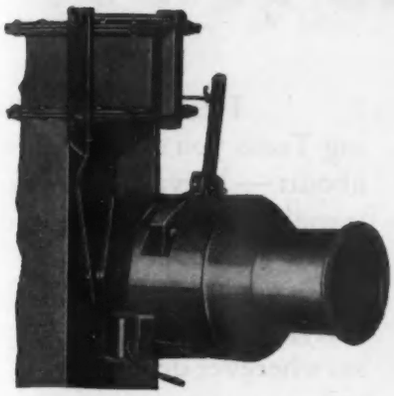
In contrast, Electric Weld Casing and Tubing, made by Republic under their exclusive patents, is formed cold from flat-rolled steel of uniform wall thickness. This uniformity of wall thickness is carried through to the finished pipe. Thread this pipe and not only are the threads uniform in depth, but the thickness of the metal under the threads must be the same.

To operating men this means that Republic Electric Weld Casing and Tubing can be safely set to as great a depth as any other casing or tubing with less chance for failure, because the metal thickness is a known quantity.

Republic has a new 64-page hand book on setting depths and bursting pressures for all sizes and grades. Send for your copy.

REPUBLIC STEEL

EQUIPMENT Featured at Oil Equipment & Engineering Exposition



American Automatic Cathead

of the best material obtainable to withstand hard usage.

The cathead has four point contact, that is, it takes hold on quarter turn of shaft and releases on complete revolution of the shaft. It has a 36-inch stroke, and if tongs are in good condition, will break joint with first contact. The spool is bored to fit any size shaft up to and including 7½ inches. It is keyed on line shaft and fastened over header board with brackets, that allows cathead to be pulled any time, or can be moved with line shaft without removing from same.

Shot Packed Pump

▪ *American Shot Packed Barrel*

This barrel has proved a time and money saver where sand cuts out cups. Run the barrel on tubing then run plunger on rods, pour a little shot down the tubing and hook on, then start pumping. Afterwards, add shot as needed. There is no need to pull tubing to service barrel until new liners have to be added. A great many of these barrels have been in wells in Seminole and West Texas fields for two of more years without pulling.

▪ *American Side Tracking Mills*

American side tracking mills are made of fine grade steel. They are used where a whipstock has been run and where milling through pipe or casing is desired. They may also be used on collar that catches splinter of casing that is milled out, thereby bringing splinter out and not having to mill same up after the job is completed.

▪ *Adjustable Steel Rig Brace*

This steel rig brace is made in sizes of four inches and six inches. The six-inch size is adaptable to rigs for drilling deep holes. They are bolted to engine foundation, or mud sills, and also the derrick floor. the top is bolted to header board or jack post. They are of steel throughout, have an 18-inch adjustment to take care of different size derrick.

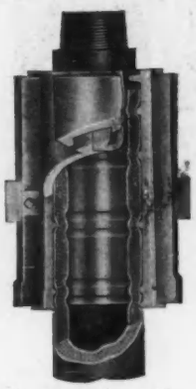
Adjustable Steel Rig Brace

▪ *Rocker Arms for Slush Pump*

American Slush Pump Rocker Arms are of the telescope type, its upper portion being a hollow plunger, that works constantly in a bath of oil, with a brass sleeve that may be readily replaced. The long brass sleeve allows an unusual amount of wearing surface, and also keeps out all foreign substances.

▪ *American Boltless Hose Coupling*

This clamp consists of three wedges, three segments and one coupling, or nozzle. It is made with a wedge effect, preventing cutting of hose. Should the clamp work loose, a sledge hammer may be used to drive it on the wedge, thereby tightening. The nozzle is made of steel, treated to withstand a great deal of pressure and cutting.



Left: American Hose Coupling

Right: American Fishtail Bit

▪ *American Fishtail Bit*

This bit was first made for use in fields where gumbo or soft formations were predominant. During the past two years, it has been used on chalk and other hard formations. This was made possible by using different welding compounds.

Water courses at cutting edge allow lubrication at cutting point, thereby preventing burning of bit. Reaming edges, which are well built up, allow bit to ream as it digs, thereby making a straight hole, as well as doing away with extra trips to ream. American fishtail bits are made long enough to permit plenty of dressing.

▪ *American Paraffin Bits*

This tool is made to run on sucker rods for use in tubing, but can be used on sand line by putting on socket and placing two or three polish rods for sinkers. It is also made in casing sizes with cable tool joint as per order. The wings fold up going into the hole, but in coming out they embrace the wall of tubing or casing and clean out the pipe. New wings can be ordered and put on in any shop or at location.

American Paraffin Bit

▪ *American Rotary Shoes*

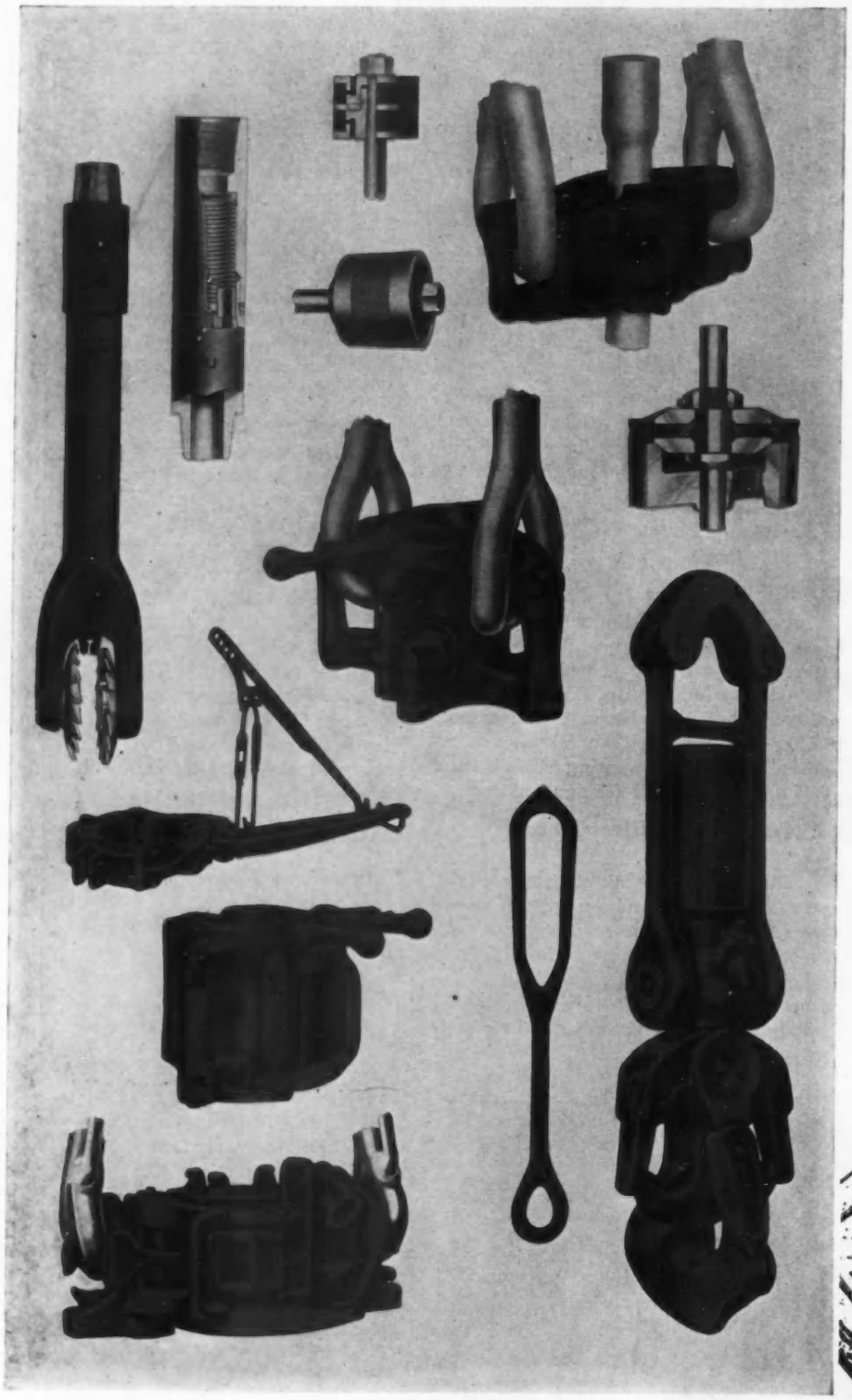
These shoes are made to run on casing for washing over a stuck string of pipe. As a general rule, one or two joints of casing are run with a rotary shoe on them and then the top is snubbled from casing to drill pipe. In some places, more joints are run but as this is dangerous, it is suggested that an inside pipe cutting job be performed first and then over the fish that is left in the hole.

▪ *American Slush Pump Valve*

Made of high carbon alloy steel, the seats are left soft in order that they may adhere to the pump deck, in case it should be a little distorted. The web in the seat is made to carry an excess load and at the same time act as a center guide.

The body is forged steel, heat treated, which carries a rubber insert tapered downwardly into the bevel of the seat and extending out on flat sur-

These safe BJ Tools *will*



Here are BJ Drilling Tools you should know about: — Elevators for external upset drill pipe, and a new Side Door Slip Elevator which sets automatically, or may be manually set wherever desired—

BJ Slush Pump Pistons and Valves for economical high pressure or low pressure service—

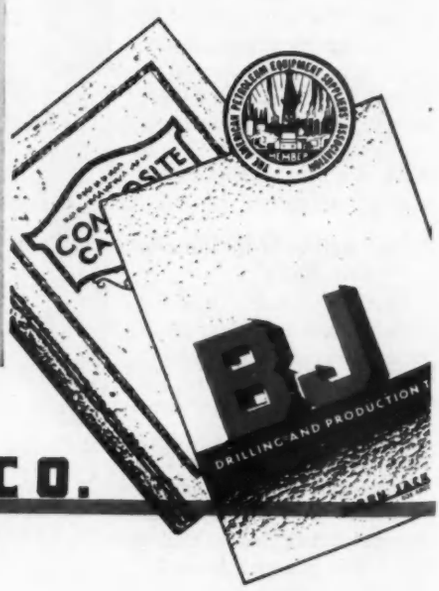
BJ Triplex Drilling Hooks which outsell all other hooks combined—

A new extra-heavy BJ Tong for combination casing and rotary work—

BJ Safety Joints, for drilling, which have saved many bad fishing jobs—

A new "staggered tooth" disc for the famous BJ Disc Bit, which cuts faster and straighter full-gauge hole.

If your supply store does not yet have these modern tools in stock, they are all described in the 1935 Composite Catalog and in the new BJ Catalog—free for the asking.



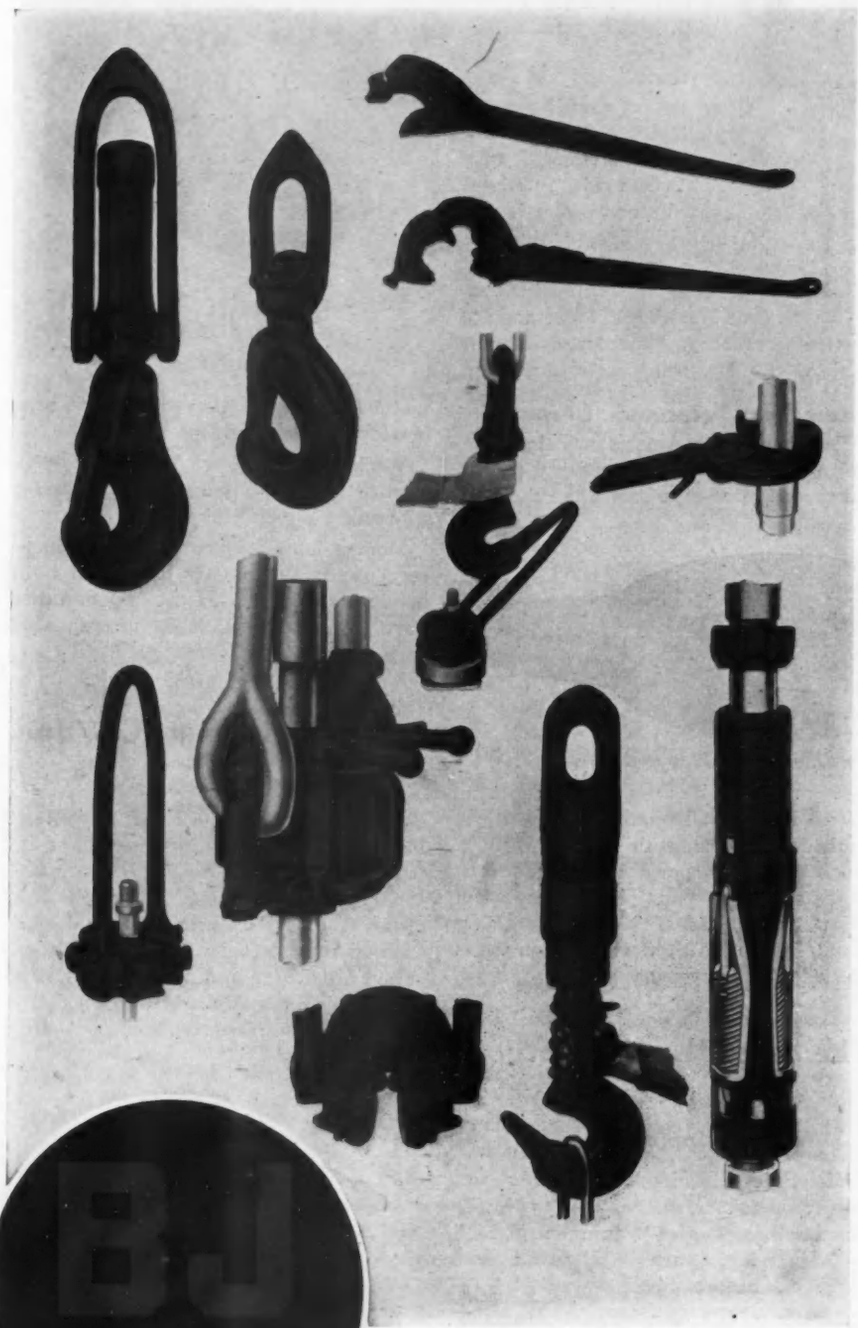
BYRON JACKSON CO.

AND SUBSIDIARY

FORT WORTH • LOS ANGELES • NEW YORK

modernize your operations

Why not modernize *your* operations with these BJ Production Tools, all of which have been field-tested and proved safe and profitable for your use:—



BJ Tubing and Rod Hooks have the exclusive "locking-arm" which eliminates many hazards. Made in a wide range of types and sizes, including a "spring" rod hook for 20 ton loads.

BJ Tubing Tongs are made to fit any size tubing, and pocket book—

There is a new BJ Tubing Elevator which does not lift under the collar, but carries the load on long, safe slips; a Rod Elevator which is operated from front or rear, and will *not* kink rods—

And the BJ Surestop Tubing Catcher guards against the danger of a dropped tubing string. It can also be set with an Anchor to eliminate coupling wear due to "tubing breathing."

So we repeat — look for these safe, modern BJ Tools in your Composite Catalog — ask your supply store for them — or see them in the BJ Catalog which we will be glad to send you. But, be prepared—know what they will do for you!

BJ

Drilling and Production Tools

face of seat, making a double seal with a top plate of lesser diameter, which allows pump pressure to come in contact with rubber insert, causing rubber to be compressed into the recess formed by seat and body, which eliminates by-passing and cutting out of seat.

The rubber insert is resiliant and under pressure forms a seal regardless of any foreign matter that may become lodged on the metal parts of the valve.

Long Drill Collars

▪ *Long Drill Collars*

American long drill collars can be furnished in heat treated chrome nickel or open hearth carbon steel.

American carries long drill collars in stock in 24 and 30-foot lengths but can furnish up to 55-foot lengths for full hole A.P.I. tool joint or standard A.P.I. tool joint.

▪ *Christmas Tree for Pumping Well*

The American Pumping Well Christmas tree is a single and non-bundlesome connection for pumping wells. Saves considerable height from top of tubing to top of stuffing box, is self-oiling, and has removeable ball and seat check valve in body. Rods may be pulled through body and packing gland, using packing gland for bell nipple. Durable and suitable for supporting long strings of rods. Standard stuffing box packing rings may be used in same.

▪ *American Tie Down Flange*

This flange is placed between two flange gate valves. It is grooved to fit any type valve, shortens hook-up by eliminating casing nipples between valves. It also does away with connections between valves. It can be furnished bored to fit over casing to use as casing clamp.

The ends of these flanges are made so as to tie down with either stirrup bolts or tie rods. They are tested to a pressure of 10,000 pounds, but have tensile strength in excess of 100,000 pounds.

Tapered Tap

▪ *American Tapered Taps*

This tap is used to catch pipe that is so broken that the overshot cannot take hold. It is made in three graduated steps where it will catch drill pipe, tool joint, upset in tool joint or drill pipe. The tap will bend before breaking. These taps are constructed with a hole large enough to allow circulation in case it is needed.

▪ *American Telescopic Union*

The idea of the American Telescopic Union is to make it unnecessary to cut and thread your pipe each time the line on which the Union is located is hooked up, because this union is telescopic and it is possible to either extend or shorten your pipe through the union, which has slips and a packing gland, insuring a tight connection without a leak at any pressure.

Tie Down Companion Flange

The Safety Equipment Service Company

▪ *Safety Equipment*

The Safety Equipment Service Company, Cleveland, Ohio, is showing a general line of safety equipment, which takes in a large variety of articles used for accident prevention work.

The company is featuring its Drednaut goggles with the new non-rubber headband. This goggle is molded of a very strong and light material, non-inflammable, water-proof, and one which passes the federal specifications for eye protection.

Wickwire Spencer Steel Company

▪ *Wire Rope*

Wickwire Spencer Steel Company, New York, exhibiting with T. T. Word Supply Company, has on display its line of wire rope. The company manufactures all sizes and types of wire rope in standard lays and preformed.

Wickwire Spencer Wisscolay preformed wire rope is especially made for application on difficult jobs.

During manufacture Wickwire Spencer rope is thoroughly lubricated both inside and outside. If a hemp or other fibre core is used, it is impregnated with suitable lubricant.

Scintilla Magneto Co., Inc.

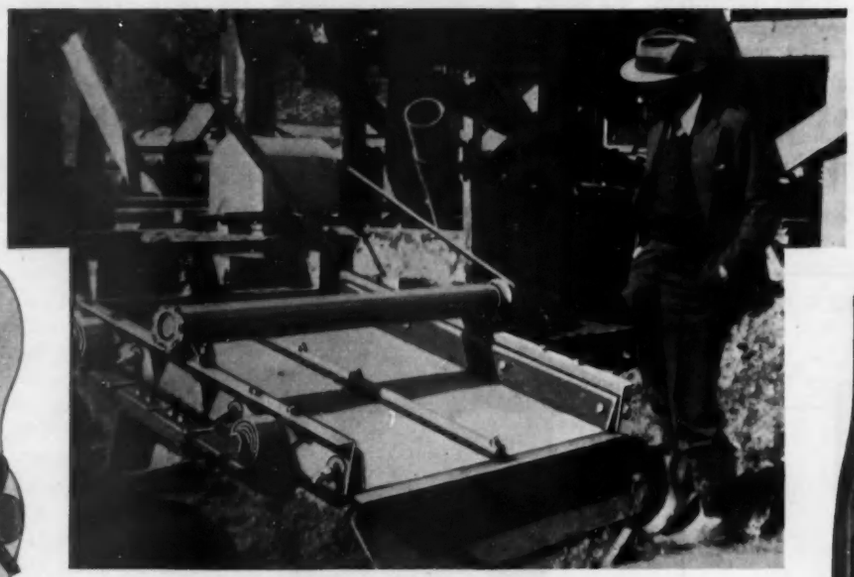
▪ *Magnetos*

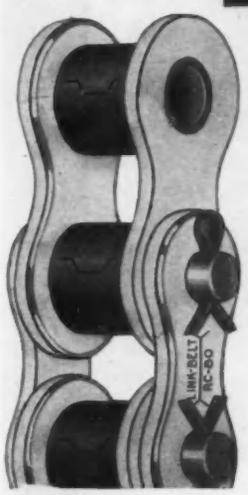
Scintilla Magneto Co., Inc., Sidney, New York, is exhibiting Scintilla magnetos and Bendix magnetos, including types specially developed for oil field use. A feature of the exhibit is the demonstration of a Bendix Magneto with enclosed distributor in a cylinder containing inflammable gas. A newly developed type of single cylinder oscillating magneto also is on display.

Bendix Magneto

LINK-BELT

ROTARY CHAINS and ROTARY MUD SCREENS





SILVERLINK
ROLLER CHAIN

For transmitting power where higher speed is essential, Link-Belt Silverlink Finished Steel Roller Chains have won a substantial place in the industry. They are employed on various kinds of light and heavy duty oil field equipment.

Some Features of the Link-Belt Mud Screen

Uniform vibration of the entire screening area. ¶All rotating parts are carried on anti-friction self-aligning roller bearings enclosed in a single dirt and weather proof housing. ¶Screen cloths rest on rubber tubes. An important, exclusive, patented and proved feature which assures maximum service, and assists in preventing loss of good mud in the rejects. ¶A small, compact, self-contained unit readily transportable from one location to another.

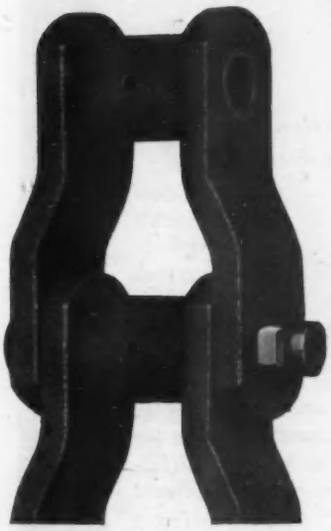
RED-HED SS-40+(A.P.I.3)
and SS-124+(A.P.I.4)

Identified by the red pin head, LINK-BELT red-hed SS-40+(48,000 lbs. ultimate strength), and SS-124+(112,000 lbs. ultimate strength), have attained outstanding success in the oil fields.

Save Money in Mud

THE Link-Belt Vibrating screen provides an effective, economical method of reconditioning degassing and cleaning rotary mud; one that pays big returns on the investment. It saves wear and tear on pumps and valves, by eliminating rough cuttings and sand from the mud, and preventing the drill bit plugging up, or of the tools sticking in the hole, through the interruption of circulation.

The vibrator shaft is driven from an electric motor, steam turbine or suitable multi-cylinder gas engine. The whole unit is self-contained, portable and easily installed in the low head room usually available. Send for folder 1472.



HYPER SS-40 (A.P.I.3)

Built to have maximum strength for deep well drilling, combined with maximum durability, on rotaries of A.P.I. 3 pitch. An alloy chain. Ultimate strength is 75,000 pounds. Features accurate, rugged, dependable construction.

A Chain for Every Drilling Service

WHERE extreme drilling conditions are encountered, use Link-Belt Three-Bar Hyper rotary chain. Its rugged construction of tough forged alloy steel, correctly balanced design, and close tolerances of all parts, provide greatest ultimate strength and smoothest operation.

All Link-Belt Hyper and Red-Hed chains are built to A.P.I. standards. Link-Belt provides a type of chain of correct capacity for every rotary drilling service.

This Link-Belt Trade >——< Mark prominently displayed on the side bars, identifies genuine Link-Belt chain.

5173-B

THREE-BAR HYPER SS-124
(A.P.I.4)

A drop forged sidebar chain. The ultimate in strength and durability is attained in this chain. Its mighty strength is secured by the tough alloy steels of which it is made, and the accuracy of its manufacture. Ultimate strength of 170,000-lbs.

LINK-BELT COMPANY

INDIANAPOLIS LOS ANGELES PHILADELPHIA

HOUSTON, Fred Wallace, 4317 Montrose Blvd., P. O. Box 1082.

OKLAHOMA CITY, W. H. Abele, Box 305, Route 4.

Export Sales Office: 2680 Woolworth Bldg., New York, N. Y., U.S.A.
Cable Address: "LINKBELT."

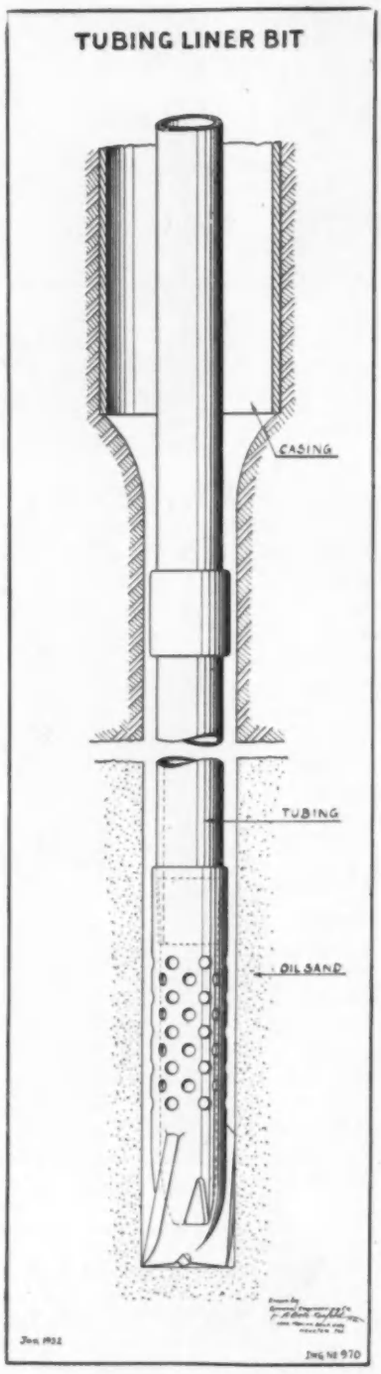
See Our EXHIBIT at the Oil Equipment and Engineering Exposition, Houston, April 8-13, Spaces 334 and 336.

Patten Tubing Liner Bit Co.

▪ ***Bits***

Patten Tubing Liner Bit Company, Houston, Texas, is displaying a tubing drilling-in bit and a tubing liner bit.

The drilling-in tubing bit is used on the bottom of tubing to drill into the cap or cement plug and into the oil sand. It is left on the end of the tubing, and the V type holes allow fluid to flow through the bottom of the bit.



Tubing Drilling-In Bit

The openings are equal to the size tubing used. The bit is a casting of chrome nickel steel and the cutting edges of the blades are hardened. In addition to drilling in, the bit is recommended by the exhibitors for cleaning out purposes.

Patten's tubing liner bit is a new tool on the market. It is designed to connect onto the end of 2 or 2½-inch tubing upon completion of the well.

The design allows flow of fluid, the performations at and above the cutting blades equalling 5½ inches, ample to take care of any 2½-inch tubing production under pressure.

Length of the liner bit complete is 2½ feet, and the cutter diameter is 4¾ inches. The tubing liner bit is made of chrome nickel steel, with cutter blades hardened. The bottom of the bit is a three-way fishtail combination.

Alexander Anderson, Inc.

▪ ***Surveying Instruments***

Alexander Anderson, Inc., Fullerton, California, has on display instruments for making underground surveys of oil wells and devices for the control of direction of drilling wells.

Andersons photo-record magnetic single-shot survey instrument is shown complete with water-tight outer case in which it is run on the sand line into the well. This instrument measures the inclination and direction of a drilling well at any point in open hole and is run by the operator himself.

Interchangeable inclination units are being featured which provide a means of measuring with a high degree of accuracy under every condition with the one instrument.

Four recording units are on display, each being equipped with a different inclination unit—the five degree, the 10 degree, the 25 degree and the 65 degree. The code disc for confidential readings will also be shown.

Among the other surveying instruments seen are the Anderson standard oriented survey apparatus for measuring inclination and direction in open or cased hole, and also the fuse single-shot survey instrument for measuring inclination and direction in drilling wells.

▪ ***Direction Control Devices***

Direction control devices include the Lewis knuckle joint and the Kinzbach whipstock with milling tool. Complete details on their operation will be furnished by the representative in charge.

There are also on display many diagrams showing the relative accuracy of different types of underground surveys under different conditions. Among these can be seen plans and verticle sections of surveys made with wells meeting underground, passing off structure, going through faults.

Anderson Survey Instrument

Holds the Load Easier At Any Depth !

Feeds Off Smoother While Drilling

"A BEAR FOR WEAR"

Non-Scoring
Smooths The Rims
Lowest Cost Per Ton Mile
Heat Does Not Affect It
Big Savings In Rim Costs
Speeds Up Drilling Operations
Provides The Highest Factor Of Safety
Will Not Squeak, Howl, Dust or Smoke

It's The Lubrication In The Block That Does The Trick

Illustration shows special steel wire grid back which serves as a foundation binder, giving strong support of bolt heads, and preventing bolts from pulling out. Also the extra thick body which contains no rubber, cotton, wire yarns, or other material affected by heat; and retains its high braking efficiency right down to the grid base.

Grizzly "35" is more than 75% selected asbestos impregnated with an efficient lubricant that lubricates the rims and insures a highly polished surface, eliminating all possibility of scoring. No wire in wearing surface. Full moulded under 500 tons hydraulic pressure. This construction not only saves the rims and prevents scoring or other damage to brake assembly—it is the reason why Grizzly "35" gives more ton miles of service and holds the load easier at any depth.

E. M. SMITH COMPANY
600-650 So. Clarence St., Los Angeles, California, U.S.A.

Sold In Mid-Continent and Gulf Coast By: CONTINENTAL SUPPLY COMPANY. Distributed By: T. T. WORD SUPPLY CO. INC., Houston, Texas, In All Their Stores.

COSTS NO MORE

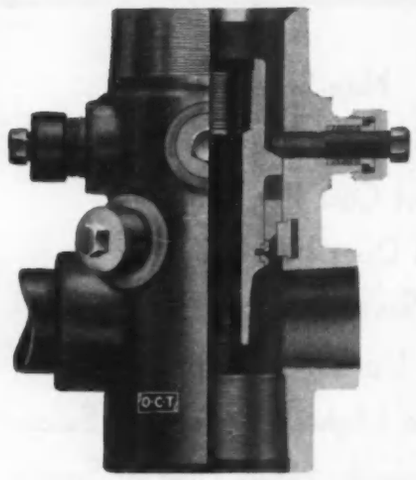
Grizzly "35" has been thoroughly field tested and has broken many ton-mile records in actual drilling service.

GRIZZLY "35" BRAKE BLOCKS
FOR ALL TYPES OF BRAKES AND ALL DRUM DIAMETERS

Oil Center Tool Company

▪ *Tubing Heads*

Oil Center Tool Company, Houston, is showing the complete line of O-C-T tubing heads that are especially designed to meet varying conditions and problems existing today. Featured in this line is the Type MS tubing head which permits the running and landing



Type MS Tubing Head

of tubing through gate valve of the same diameter as the casing on which the tubing head is mounted. The Type MS head is full throat to permit the above accomplishment. An anchor screw, serving as added protection in anchoring tubing, is operated from the outside of the job after tubing is anchored within the head.

▪ *Blowout Preventers*

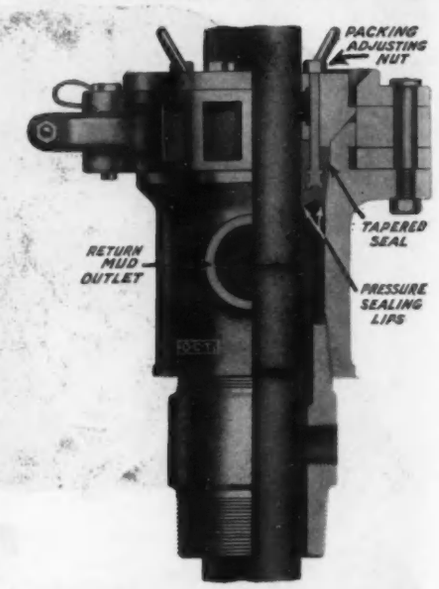
Type "D" blowout preventer, which allows the operator to drill in, run casing and run tubing under safety against pressures is displayed in the O-C-T exhibit. This preventer provides for latching the packing unit around drill pipe when the well begins bucking, lowering of drill pipe until packing unit automatically latches in preventer bowl, and working of drill pipe up and down the length of one joint, or rotating, thus protecting against sticking of drill pipe. Heavy mud can then be pumped in to kill the well. Type "H" preventer, which furnishes an unusually good working combination with the O-C-T Type "H" tubing head, also is on display.

▪ *Streamline Christmas Trees*

The new departure in well hook-ups is represented in this company's line of streamline Christmas trees, which eliminate the necessity of nipples and tie-rods and clamps. Male thread valves are used to tie the flow lines directly into the main cross, and no reduction in flow line area is encountered until the flow-line cross is reached, where the back pressure tendency helps to prevent cutting of valve parts. The design provides a more direct flow-way, cuts down the weight of the Christmas tree, and requires considerably less space. These trees are built now in two types, Type "AS" for assembling with the O-C-T Type "AS" tubing head, and the conventional type not departing in complicity from the average hook-up in the field today, but having considerably less parts and less weight.

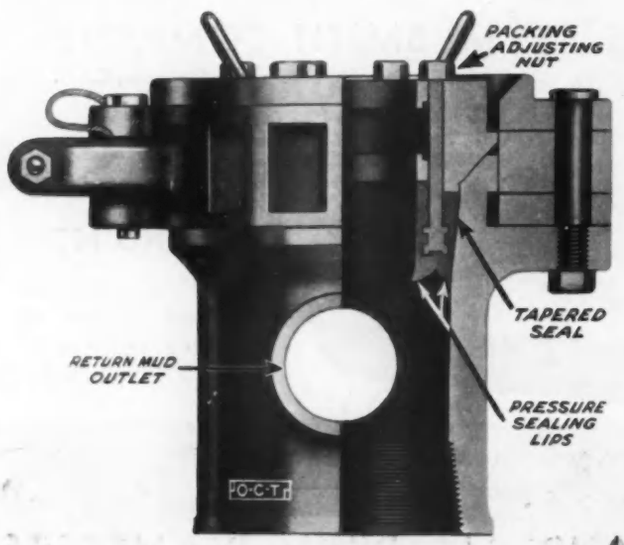
▪ *Combination Preventer and Bradenhead*

On display also is the O-C-T Combination of Type "D" preventer and Type "L" Bradenhead, a hook-up offering protection against high pressures while drilling, running or landing pipe. This



Preventer closed around casing and sealed off.

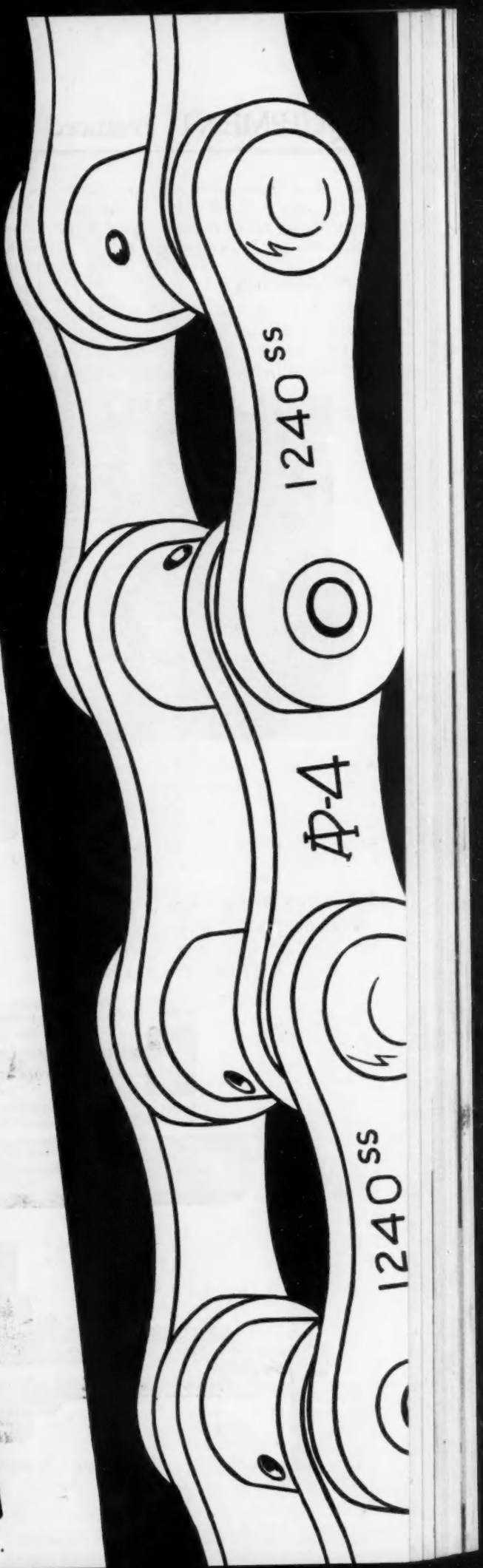
combination provides for swinging casing before cementing and eliminating



Type D Blowout Preventer

Streamline Christmas Tree

BALDWIN
Super service Chain
Stands the strain



There are real guts in Baldwin Super-Service Chains—Precision machined, heat-treated alloy steel side bars and rollers, hardened and ground bushings and pins. Of course they stand the gaff—long after ordinary chains are worn out, you'll find these chains still going strong. Ask the Driller who has used them.

Available in both sizes—1030-SS and 1240-SS to A.P.I. Standards. Specify Baldwin-Duckworth the next time you need deep-well chains. Baldwin-Duckworth Chain Corporation, Springfield, Mass.

BALDWIN DUCKWORTH

Distributors: Factory Representative: Geo. J. Fix Company, Dallas, Texas. *Mid-Continent:* Frick-Reid Supply Corporation. Woodward-Wight & Company, Ltd. Murray-Baker-Fredric, Inc. International Supply Company. T. T. Word Supply Company. Louisiana Supply Company. *California:* The Petroleum Equipment Co., Los Angeles, California. *Export:* Oil Industry Appliances Co., 39 Cortlandt St., New York City, N. Y.

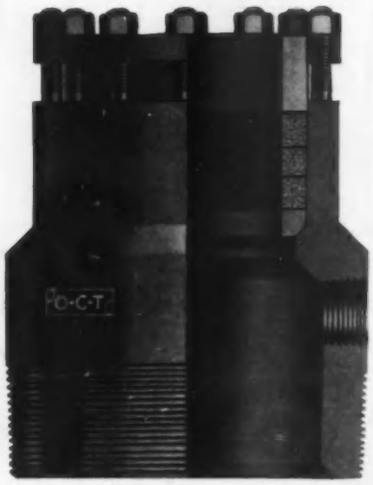
You are cordially invited to visit our Booths Nos. 534 and 536 at the Houston Exposition

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

the job of backing out the last joint to nipple up. It further avoids hanging pipe string on elevators or rotary slips while cement is hardening.

▪ *Bradenheads*

Heading the line of O-C-T bradenheads on display is Type "G," so designed that the stud bolts hold the pressure without the weight of casing



string hanging on the top gland. Packings used are asbestos, making the head as near fire-proof as possible. Type "G" is forged steel, and all threads are lathe cut to A.P.I. specifications.

▪ *Needle-Valve Chokes*

Featuring O-C-T chokes on display is Type "E," built with a renewable seat bean and a renewable nose. Seat is replaced by disconnecting needle valve stem guide and unscrewing seat with special wrench furnished, without disturbing flow lines. This choke may be swabbed through by removing needle valve guide stem and swabbing through cross.

▪ *Quick-Change Choke*

This choke, also on display, consists of a flow bean, and a cage nipple, one end of the bean machined with a hexagonal socket to engage a special flow bean wrench furnished. Changing of bean takes approximately three minutes, it being replaced through the bull plug with disconnecting any flow lines.

▪ *High Pressure Fittings*

This exhibit includes a complete line of O-C-T high pressure forged steel fittings, of which Type C-102 cross and

Type C-102

Type SN-10

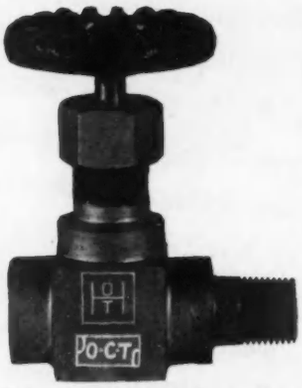
Type SN-10 swage nipple displayed here, are examples. The cross has one male and three female outlets. It is machined from a solid forging, carries lathe cut threads to A.P.I. specifications, is made in sizes two-inch through seven-inch O.D. and ranges in test pressures from 1000 to 6000 pounds.

▪ *Pressure Gauge*

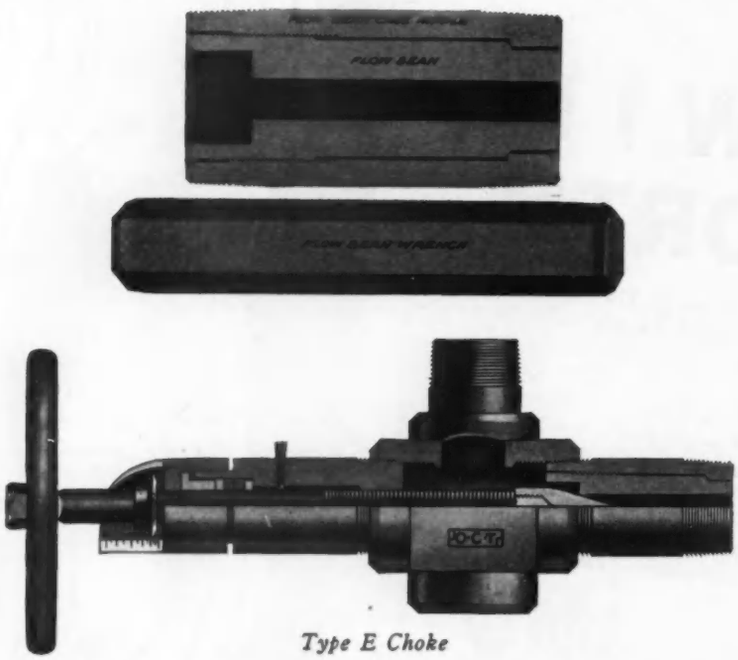
The O-C-T pressure gauge is especially made for Christmas tree use and is built in 1000 and 3000-pound test. It is furnished in six-inch gauge face only. The 1000-pound gauge has a ¼-inch connection and the 3000-pound gauge a ½-inch connection.

▪ *Pressure Gauge Needle Valve*

This pressure gauge needle valve is made of forged steel and is heat treated. The stem is of stainless steel, packed with asbestos. The valve body is made in a single piece. It is tested to 10,000 pounds pressure, and is turned out in all required sizes from ⅛-inch to 1¼-inch, inclusive, and furnished in either Type MF for both male and female outlets, or Type FF, two female outlets.



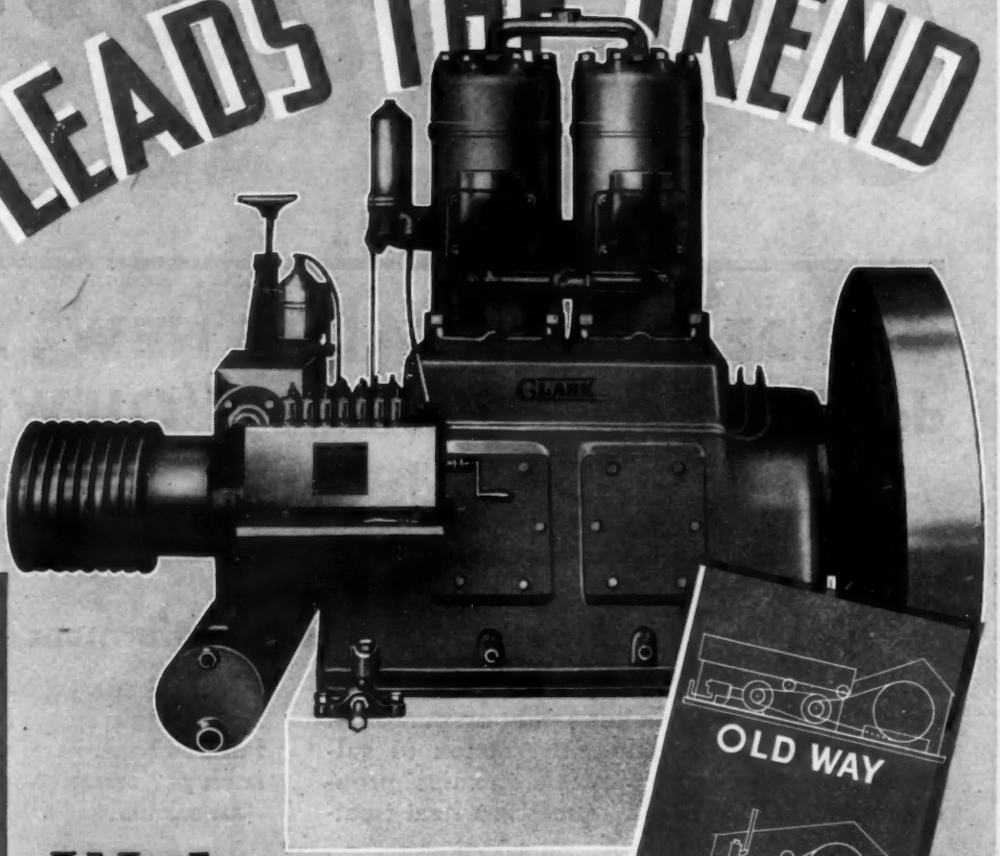
Type MF Needle Gauge Valve



Type E Choke

Pressure Gauge

Again! CLARK LEADS THE TREND



With its new "Bobcat" ENGINE

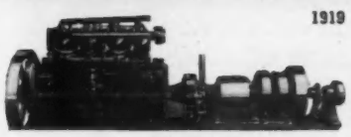
CLARK has repeatedly pioneered improvements in engines and compressors for the Oil Industry. Now the new CLARK "BOBCAT" Vertical Pumping Engine again pioneers a trend, because of the new efficiency and new economy it introduces.

Approximately $700 is saved on installation cost, by the "Bobcat." The diagram indicates how this is done. Vertical design and short belt save approximately 50% in floor space, 55% in foundation costs, 40% in building costs. One idler is eliminated, as engine is mounted on slide rails. There is reduction in belt cost and upkeep.

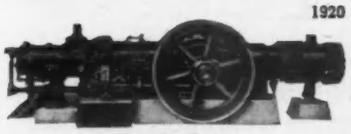
Engine is 2-cycle, 40 H. P., convertible, full Diesel or gas. Highly important, it is designed to operate at moderate speed, insuring long life. It is ideal for chain or gear driven pumping units.

Thoroughly proven in the field, the "Bobcat" is now meeting with a wide demand. For full information mail coupon or phone our nearest office.

Other Features Pioneered by CLARK

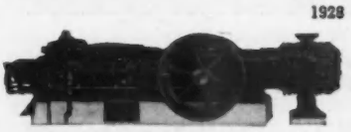


1919 — Gas and Gasoline Drilling Engines



1920 — Direct Gas Engine Driven Compressor

1925 — Fuel Injection Valve for 2-Cycle Engine



1928 — Double Acting 2-Cycle Engine Driven Compressor

1930 — Inverted Power Cylinders

1930 — Balanced Opposed Electric Driven Unit

CLARK BROS. COMPANY
OLEAN, NEW YORK, U. S. A.

Export Office: 30 Rockefeller Place, New York. Midcontinent Sales Offices and Warehouses: Tulsa, Oklahoma, and Tyler, Texas. West Coast Office: Smith-Booth-Usher, 2001 Santa Fe Ave., Los Angeles, Cal. Foreign Offices: 72 Turnmill St., E. C. 1, London, England, and 4 Str. Central Poesias, Bucharest, Roumania.

CLARK

Performance Sells

GRADE "S" METAL IS NEW . . . Originated, developed and perfected by "OILWELL" to solve your Sulphide Well Rod Problems

Never Before Such Performance!

Even in the worst sulphide wells, "OILWELL" Grade "S" Sucker Rods keep right on pumping. They are fortified against the attack of sulphide embrittlement by unique chemical properties and "OILWELL's" exclusive heat treatment. Grade "S" Rods carry on indefinitely. Not a single string has been laid down and rod failures have been virtually eliminated. To get such performance—use Grade "S" Sucker Rods —an exclusive "OILWELL" product.

Now You Can Successfully Combat Hydrogen Sulphide Embrittlement!

Hydrogen Sulphide (H_2S) in the presence of water has the peculiar property of causing corrosive embrittlement of straight carbon and alloy steels most frequently used for sucker rods. The effect of this embrittling action on ordinary sucker rods contributes to their early fatigue and failure. Grade "S" Sucker Rods have inherent properties to combat hydrogen sulphide embrittlement. Use them in your sulphide wells —and check their performance against all others.

Now You Can Lower Production Costs of Pumping Sulphide Wells!

Shutdowns, delays and replacements caused by sucker rod failures increase your production costs. Accurate service records have been maintained on all Grade "S" Sucker Rod installations to date and their outstanding performance and resultant economy strongly recommends their installation . . . Superior performance makes Grade "S" Sucker Rods the cheapest available.

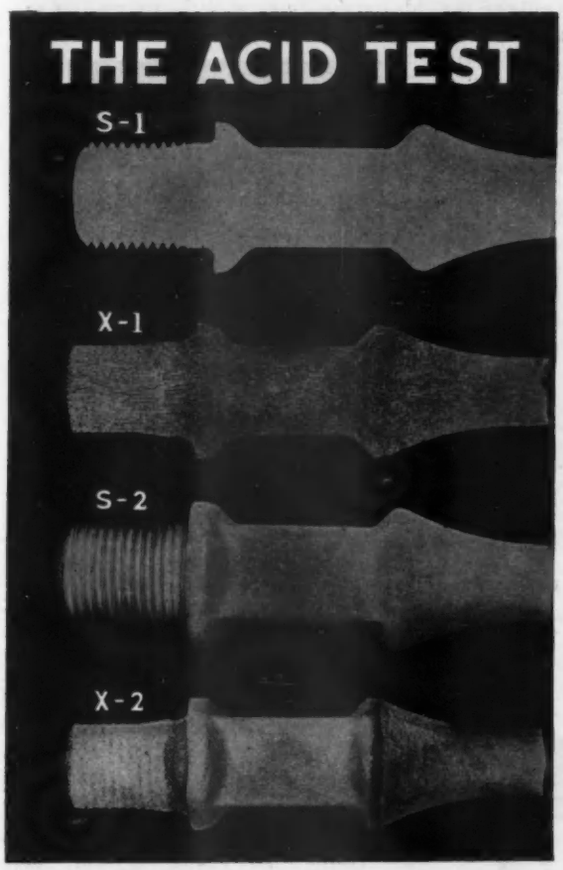
Grade "S" Metal is a Low Metalloid Steel!

It is practically pure clean iron, with slag inclusions eliminated, alloyed with nickel and molybdenum. "OILWELL" Grade "S" Sucker Rods are upset with extreme care by a special process, after which the rods are fully heat-treated, i.e., normalized, quenched and drawn over their entire length, made possible only in "OILWELL's" heat-treating furnace and auxiliary equipment . . . Only by these exclusive methods is it possible to secure the desired balance between strength and ductility, and the required resistance to sulphide embrittlement and corrosion fatigue.

• • •

"OILWELL" engineers and metallurgists recommend Grade "S" Sucker Rods for sulphide wells in installations where the rod stresses are as high as 30,000 lbs. per sq. in.

Grade "S" Sucker Rods for Sulphide Wells



These unretouched photographs show the results of a deep acid etch after 1½ hours in 50% Hydrochloric Acid at a temperature of 170° F. S-1 shows the *center line plane* of a Grade "S" ¾" A.P.I. pin. X-1 shows the plane of an S.A.E. 1045 plain carbon steel. S-2 and X-2 show the *outer surface* of the pins. Note how the threads of the carbon steel have been eaten almost completely away.

Performance records have been established for "OILWELL" Grade "S" Sucker Rods in wells at:

Seminole, Oklahoma
Eldorado, Kansas
Eastboro, Kansas
Oil Hill, Kansas
Leon, Kansas
Valley Center, Kansas
Voshell, Kansas
Big Spring, Texas
Borger, Texas
Crane County, Texas
and other outstanding sulphide fields.

For additional information inquire at nearest "OILWELL" *store or office.*

OIL WELL SUPPLY CO.

Subsidiary of United States Steel Corporation

Branch Stores in All Oil Fields

3007

"OILWELL"

Halliburton Oil Well Cementing Company

Halliburton Oil Well Cementing Company, Duncan Oklahoma, is showing its full line of cementing equipment as well as some of its other products.

▪ *Multiple Stage Cementing Device*

This device allows greater facility and success in placing large amounts of cement behind strings of casing. It eliminates the necessity of pumping all the cement down the entire length of pipe and then a considerable distance upward behind the casing. This advantage is particularly desirable when a string of casing is to be cemented from top to bottom. The method is also useful where it is desired to protect a shallow productive formation located behind the casing. Thus, a cementing job may be done around the shoe to obtain the usual water shut off and another job may be done on the same string of casing at a shallower level to provide protection to a productive formation. By this means cement is placed above, below and at the shallower producing formation. Multiple stage cementing makes it possible to "spot" a body of cement at any point in the casing by installing it at a suitable point in the pipe string.

▪ *Full Hole Cementer*

This is a simple, inexpensive device allowing full sized holes in productive sand. When in "closed" position a sleeve covers the cement outlets, the sleeve being held in place by shear pins. Drilling fluid is circulated down through the device to thoroughly wash the space outside the screen. Then a regular two-plug cementing job is done. When cementing, the sleeve is forced downward by the bottom plug, uncovering the cement outlets and allowing the cement to pass through the outlets up into the annular space behind the casing. If an operator desires to use a canvas "shirt tail" packer, it may be attached to the liner just below the full hole cementer. After the cement has set, the plugs and back pressure valve are drilled out. The device permits the installation of the same size screen area, thereby obtaining larger drainage surface.

▪ *Howco Lining*

Howco cement lining for screens or perforated liners allows thorough washing of cavings, cuttings and heavy muck from behind screens or perforated liners. It is used in connection with the full cementer, although its applications are not restricted to this purpose and neither is it necessary that it be used with the full hole cementer. It requires no fishing as the material is easily drilled and circulated out of the casing by the tubing or drill stem at the same time the cementing plugs are drilled.

▪ *Howco Co-Axial Spiral*

Howco Co-Axial Spiral offers an extra degree of protection when completing oil wells. It prevents, according to the manufacturer, channeling outside of casing and protects against blowouts.

It consists of a triangular rubber molding vulcanized to a metal base. The rubber is attached to the metal by a process similar to that employed by automobile manufacturers in vulcanizing rubber connecting pads used in floating power installations between the frame and motor. The spiral comes in seven-foot sections and is preformed in various sizes to fit over the outside of the casing. It is solid in sets of four seven-foot sections. However, any additional number of sections may be used.

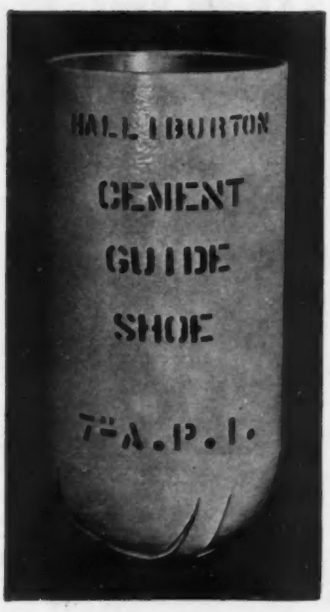
Howco Co-Axial Spiral

Howco Co-Axial Spiral is installed by simply slipping it over the thread end of a joint of casing and attaching it to the casing by arc welding at short intervals. Usually, two sections of spiral may be placed on the bottom joint of casing and the other two may be placed at a suitable point or points up in the string where it may be desirable to have assurance that the casing is not in direct contact with the wall of the hole.

▪ *Howco Float Collars and Cement Guide Shoes*

These products have four-way grooves, which lead into the main opening of the float valve or guide, providing emergency passages for the circulating fluid or cement. The guide will not interfere with coring through or immediately below the shoe.

By spacing the float collar one joint above the guide shoe in a string of casing, additional assurance is obtained that a good body of cement will be pumped behind the shoe.



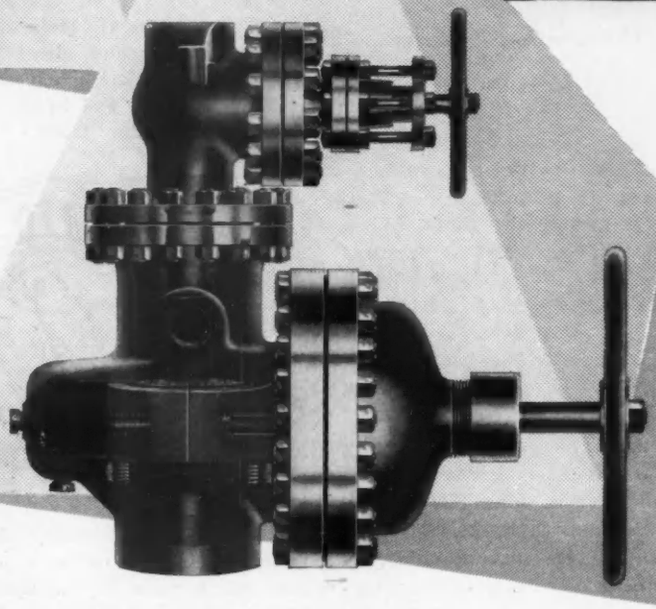
Howco float collars and cement guide shoes are available in standard casing sizes, and furnished with long threads for Grade "D" casing without additional charge.

▪ *Halliburton Measuring Device*

The Halliburton well measuring device is an apparatus for measuring the depth of wells. A round steel line is used, reducing both the weight and the cost. After leaving the reel the line passes entirely around a sheave that is coated around the outside with an extremely hard metal. This sheave is of such diameter that when the line is drawn taut around it each revolution of the sheave passes exactly two feet of line. An automatic counter registers

Strength

at the FOUNDATION LIKE the PYRAMIDS



GRAY

BOLL WEEVIL TYPE TUBING HEADS AND MASTER CONTROL

are compact and simple in design. They taper upward and have strength where needed AT THE FOUNDATION.

The result is SAFETY . . . INCREASED RIGIDITY . . . FREEDOM FROM VIBRATION, thus eliminating loosening of connections which cause leaks.

BOLL-WEEVIL Construction furnishes the only Method of blowout prevention whereby both outside and inside closures are effected with one operation.

The addition of MASTER CONTROL provides simultaneous and/or independent control of casing and tubing outlets in a compact, rigid assembly.

DESIGNING OF MATERIAL TO WORK TOGETHER assures the elimination of weak connections that obviously exist in assemblies made up of strong parts designed for individual functions.

INFORMATION CONCERNING
how you can use the GRAY BOLL WEEVIL TUBING HEADS and MASTER CONTROL as the foundation for a coordinated system of well control . . . can be obtained

by calling in a
GRAY-KEROTEST REPRESENTATIVE

GRAY-KEROTEST

Gray Tool Co. — Kerotest Mfg. Co.
Houston, Texas — Pittsburgh, Pa.

each half revolution of the measuring sheave, that is, counts each foot of line as it passes. The measuring member has two retaining wheels that are adjustable to maintain a slight pressure on the line and prevent any possibility of its slipping on the sheave. These wheels are heat treated to reduce wear to a minimum. By releasing the retainer wheels the line may be removed from the measuring member. The device may be operated by hand or by any available power.

The stuffing box assembly is a device that screws onto the top of the swedge nipple or casing head. It consists of a grooved sheave over which the measuring line passes, various fittings and a stuffing box through which the line can enter the casing without the well fluid coming out.

▪ *Formation Testers*

The Halliburton formation tester is a method for testing the productivity of a formation encountered in a well containing drilling fluid. It involves the insertion of only a single string of pipe into the well to make a test, which includes lowering a test string into the well through the drilling fluid with a packer carried by the string and a valve inlet at the lower end of the string closed against the entrance of fluid from the well, setting the packer above the formation and opening the valve to permit cognate fluid from the formation to enter the inlet, closing the valve to prevent the subsequent entrance of fluid from the well though the inlet and releasing the packer, and raising the test string with the inlet closed against the entrance of fluid from the well to remove an entrapped sample.

▪ *Howco Perforation Cleaner*

When screens or perforated liners become partially clogged by sand and shale particles the Howco perforation cleaner will dislodge the clogging material. There are no pumps to set up and there is no pressure imposed on the producing formation. It is installed on the bottom of the producing string of tubing or drill pipe, and no additional equipment is required.

▪ *FWD Trucks*

Halliburton Oil Well Cementing Company also is showing FWD trucks, which it distributes. The FWD truck drives through both front and rear wheels. The device that provides the power is the FWD center differential.

The France Packing Company

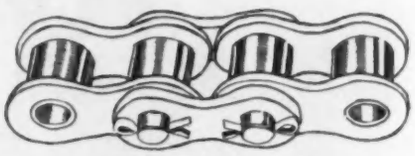
▪ *Metallic Packings*

The France Packing Company, Tacony, Philadelphia, is exhibiting a complete line of floating metallic packings, such as used on drilling engines, the steam end of slush pumps, and air, gas, and ammonia compressors. The wearing rings are contained in grooved cases, and are free to float with any lateral movement of the rod. Materials used in the rings are of a proven analysis, and reduction in packing friction, as well as long life, are two of the features claimed. With a floating metallic packing, there is only pressure on the rod when there is pressure to be held.

Whitney Manufacturing Company

▪ *Roller Chain*

Whitney Manufacturing Company, Hartford, Connecticut, displays in conjunction with O. H. Holman Company a liner of roller and silent chains, featuring a new 2-inch pitch roller chain made in standard and heavy duty types of heat treated alloy steels.



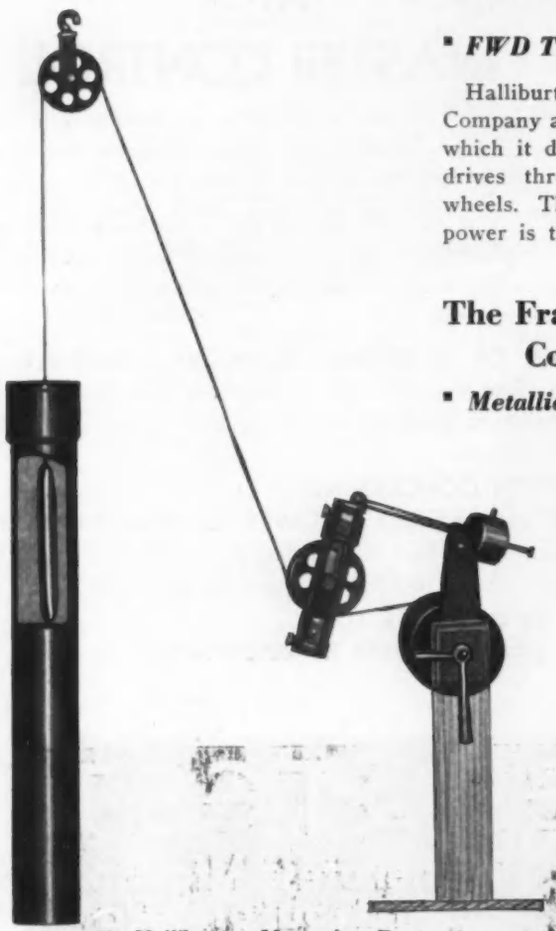
2½-inch Pitch Roller Chain

W. A. Jones Foundry & Machine Company

▪ *Speed Reducer*

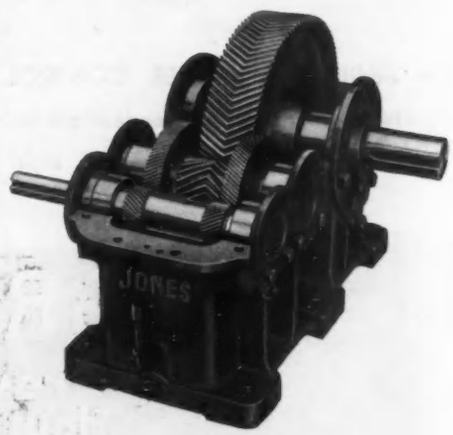
W. A. Jones Foundry & Machine Company, Chicago, Illinois, exhibits in conjunction with O. H. Holman Company a line of gear speed reducer units.

These are enclosed gear drives and are made in spur, worm and herringbone types with wide ranges of ratios. All the herringbone reducers have oversize roll way bearings on the high speed shafts, while Timken bearings are used on the slow speed driven shafts.

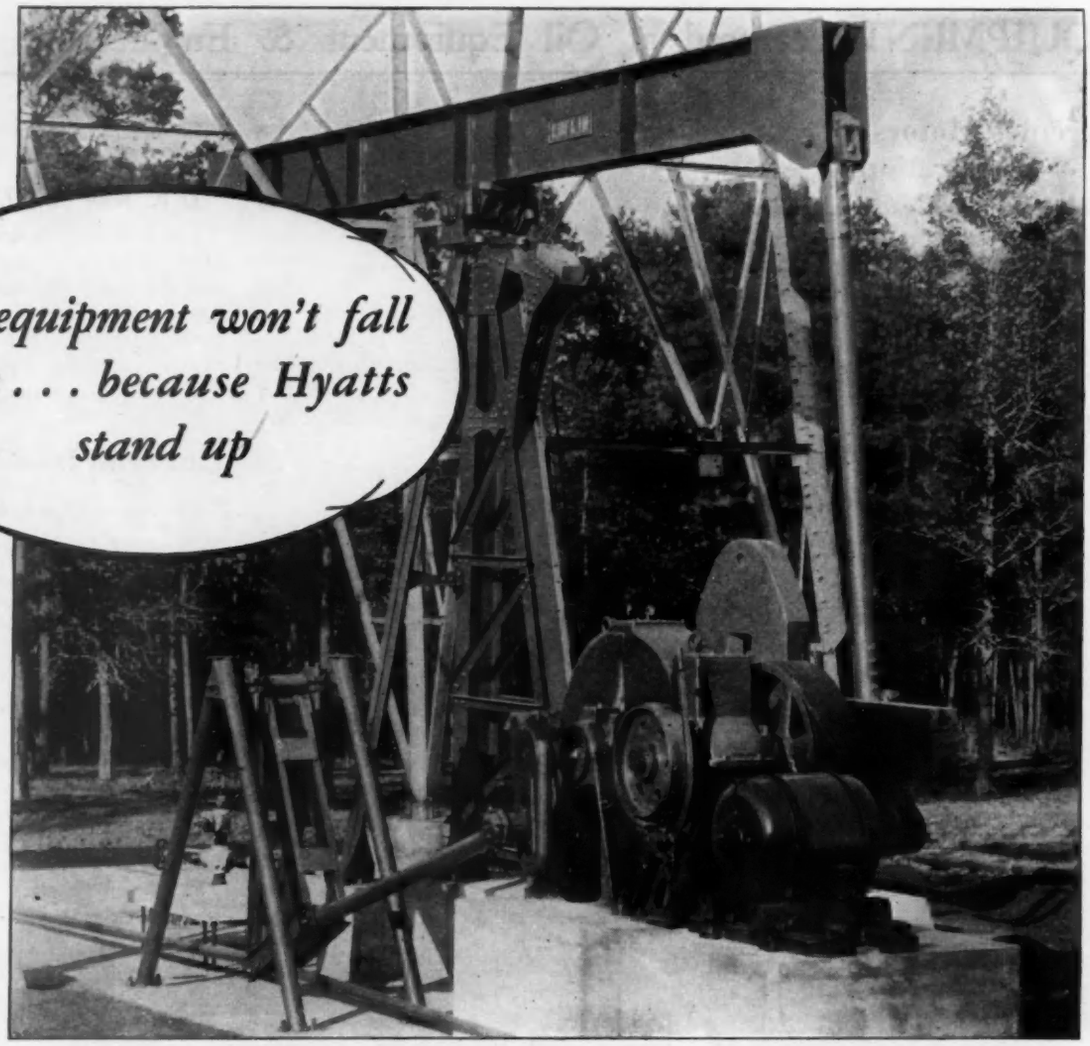


Halliburton Measuring Device

The France Metallic Ring



Jones Herringbone Reducer



This equipment won't fall down . . . because Hyatts stand up

The Lufkin 3-Well Hook-Up built by THE LUFKIN FOUNDRY AND MACHINE CO., LUFKIN, TEXAS, is equipped with Hyatt Roller Bearings. Widespread use in these units and also in drilling rigs, engines, pumps, etc., proves fitness of Hyatts for any and all kinds of oil-well equipment.

Uninterrupted operation and care-free performance justify the use of Hyatt Roller Bearings. The bearings selected for this or any comparable installation are individually designed to conform with specific operating conditions, to eliminate friction, reduce maintenance, minimize wear and stand the gaff.

That's why so many machinery and equipment builders standardize on Hyatts. And that is also why the many users of this equipment know they can rely on the protection that these better bearings afford. Hyatt Roller Bearing Company, Newark, Detroit, Chicago, Pittsburgh, Oakland.

HYATT

ROLLER BEARINGS

PRODUCT OF GENERAL MOTORS

...well pressure of the operating fluid, but it exerts each bite on it greater than the operating pressure but less crushing strength that are adequate to maintain a tight pressure on the line and prevent any possibility of its slipping on the sheave. These wedges are then locked in place in a manner that the retaining line may be removed from the operating station. The device may be operated by hand or by any available power.

The sealing box assembly is a device that enters into the top of the annular space or casing head. It consists of a grooved packer over which the operating line passes, various fittings and a sealing box through which the line can move for swing without the well fluid escaping out.

Formation Tester

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Hanco Perforation Cleaner

When access to perforated intervals become partially clogged by sand and shale particles the Hanco perforation cleaner will dislodge the clogging material. There are no pumps to set up and there is no pressure imposed on the producing formation. It is installed on the bottom of the producing string of tubing or drill pipe, and no additional equipment is required.

FWD Trucks

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The France Packing Company

Metallic Packing

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Hanco Perforation Cleaner

Type Packing Metallic Ring

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Whitney Manufacturing Company

Roller Chain

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Diamond Patent Roller Chain

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Type Herringbone Reducer

HYATT

ROLLER BEARINGS

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

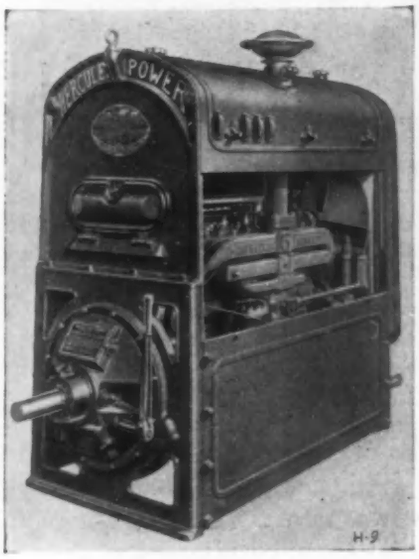
Hercules Motors Corporation

▪ *Internal Combustion Motors*

Hercules Motors Corporation, Canton, Ohio, has on display several types of internal combustion motors designed for oil country use. The display is in connection with the Norvell-Wilder Supply Company exhibit.

▪ *RXC Power Unit*

One feature of Hercules' exhibit is the RXC completely enclosed unit, including clutch power takeoff and equipped with

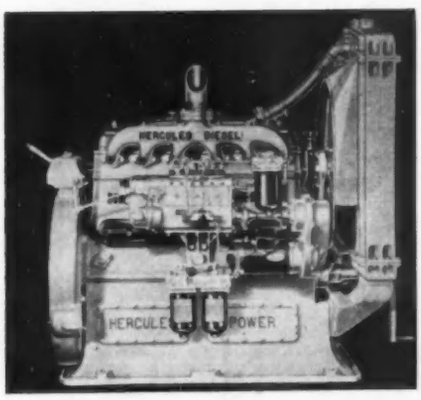


Hercules RXC Unit

gas valve, carburetor and sensitive regulator. This type is made to operate on natural gas.

▪ *DRXB Open Type Unit*

The DRXB open type power unit shown by Hercules Motors Corporation is a six cylinder Diesel power unit. It has a bore of 4⅜ inches and a stroke of



Hercules DRXB Diesel Unit

5¼ inches. It has a displacement of 474 cubic inches. For intermittent duty it has 120 horsepower at 2000 r.p.m.; for load operation and continuous peak it has 104 horsepower at 1600 r.p.m.

▪ *IXB Unit*

The IXB power unit on display is a four cylinder gasoline engine. Has a 3¼-inch bore and a four-inch stroke, giving it a displacement of 133 cubic inches. For intermittent duty, maximum speed is 2000

Hercules IXB Power Unit

r.p.m., giving 34.5 horsepower. For continuous load peak operation, maximum speed 1800 r.p.m., giving a maximum horsepower of 31.

Other models shown by Hercules include the RXB open type unit fitted with various components into what the manufacturer terms a low fire hazard unit. It is a six cylinder engine with a bore of 4½ inches and a stroke of 5¼ inches. There are also an "OOC" unit and a Model L unit, each of which are equipped with a gas valve, carburetor, and sensitive regulator to operate on natural gas. Each is equipped with a clutch power take-off.

D & M Machine Works

▪ *D & M Pistons*

D & M Machine Works, Torrance, California, is displaying D & M pistons, one of the most important features of which is their flexible lip contact and the consequent avoidance of abrasive action. The elimination of follower plates prevents sand from scoring the liners, claims the manufacturer. They have no holes or channels for fluid to pass through to expand the rubbers.

D & M pistons may be had with special rubber to combat abnormal conditions and are obtainable in any size and for any pump.

▪ *D & M Water End Rods*

The D & M rods are machined of high grade steel, heat treated, ground to size and checked with hardened and ground gauges on passing final inspection. Chamfered seats make it possible to install or remove a piston without removing the rod from the pump.

Cameron Iron Works, Inc.

▪ *Pressure Operated Gate Valve*

Cameron Iron Works, Inc., Houston, has on exhibit for the first time the new pressure operated gate valve which offers numerous advantages. It is instantly closed or opened by hydraulic pressure, with a ratio of 3 to 1. It makes a positive shut-off, effected by mechanically expanded packing elements. The gate seat is self cleaning. Valve seat and packing elements are fully protected from possible damage from normal pipe movement in and out of the hole, or rotating off center. The design makes this valve easily serviced in the field, when necessary. The principle of closing a valve under pressure between two chokes is incorporated. Provision is made for closing manually, if ever necessary. It has full opening through well bore. Compactness is such that height and length are minimized. It is operated by remote control, by pressure, from a convenient point on the derrick floor, or, at the pumps supplying the pressure, if preferred.

▪ *Improved Double-Acting Blowout Preventer*

Cameron's improved SDA blowout preventer model, representing recently completed advantages over the Cameron double pressure preventer, is also displayed for the first time. It features closing and opening by pressure from a remote point, as did its predecessor, but is shortened to the point where it is five inches shorter than the "MP" preventer, which closes by pressure and opens manually. The packing elements of the new SDA preventer are a radical improvement. This preventer being packed with mechanically expanded packing elements, assuring positive and dependable shut-off around the drill pipe. The closed rams are capable of having a string of drill pipe suspended on them. While the over-all length of

The leading DRAW WORKS BEARING

The wheel turns, the pattern changes, new ideas develop; but AMERICAN ROLLER BEARINGS adapt themselves and remain, approved and standard, now as for many years, in the heaviest oil-country uses. Drawworks of advanced design, streamlined crown blocks, better travelling blocks, rotary drives, swivels, winches, pumping units, tractors — you do well to specify equipment of which AMERICAN ROLLER BEARINGS are a part. . . . Address: American Roller Bearing Company, Pittsburgh, Pa.

AMERICAN ROLLER BEARINGS

the SDA represents a vast reduction, the closing piston has been increased to provide an even more powerful closing means.

▪ *Cameron Core Barrel*

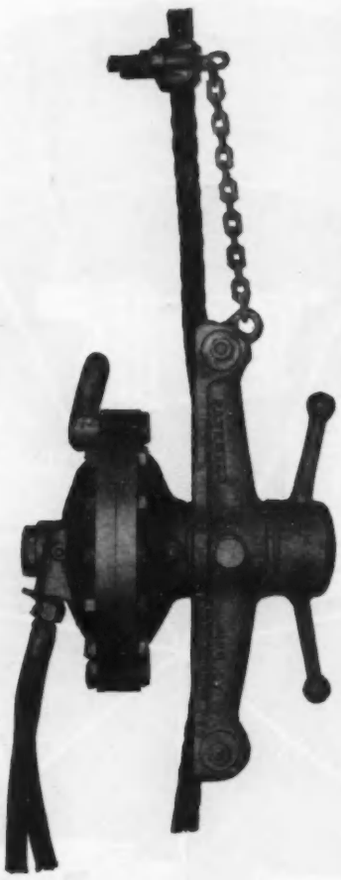
The Cameron core barrel, featuring the non-rotating inner barrel, is being exhibited in a cut-away model to show how the inner barrel idles while the core is being taken, thereby protecting the core against distortion. This cut-away model also shows how the inner barrel is suspended by means of sturdy ball thrust bearings which are completely enclosed and packed in grease as a protection against the action of the various abrasives present in drilling mud. Recent improvements in the bearing feature of this barrel have shown highly successful field results. The internal core lubrication feature is also shown, as well as the advantages of the multi-diameter inner barrel assembly, and the unique core catcher spring assembly.

Left:
Cameron
Core Barrel

Right:
Cameron operated gate valve and double-acting blowout preventer.

▪ *Weight Indicator-Recorder*

The Cameron exhibit is showing the Abercrombie-Shimek weight indicator-recorder, including both the triplex and the duplex gauge units. The triplex gauge unit consists of a steam gauge, a load indicating gauge, and a load recording gauge, all mounted within a dust and weather proof case, eliminating the necessity for protective boxes. The duplex gauge unit consists of a steam gauge and a load indicating gauge only (the recording chart and mechanism eliminated) mounted in the same type case as the triplex unit.

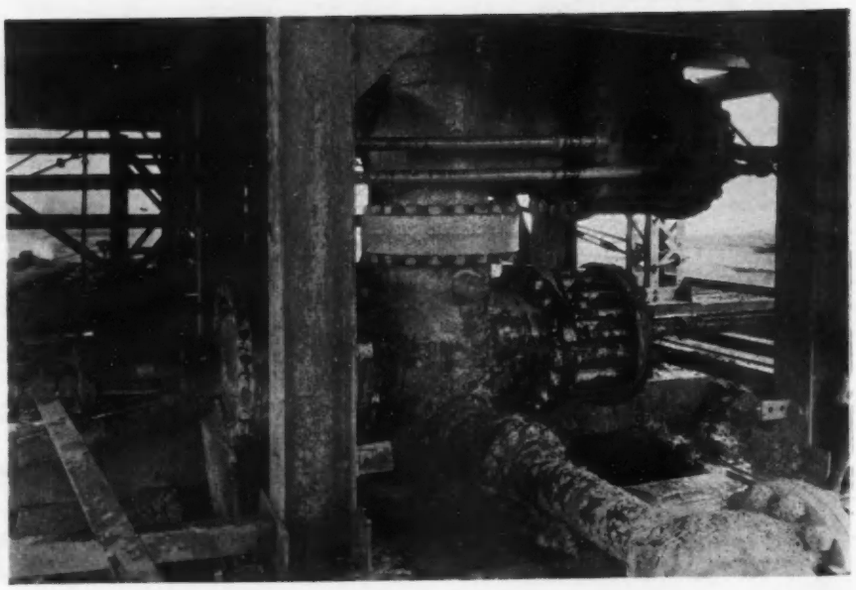


Above: Diaphragm Unit

Triplex Gauge Unit

This instrument indicates and records the load on the hook directly in thousands of pounds, regardless of the cable size, and thereby eliminates the use of complicated weight tables to determine the actual load. The calibration curve of the recorder is a straight line, there-

Duplex Gauge Unit

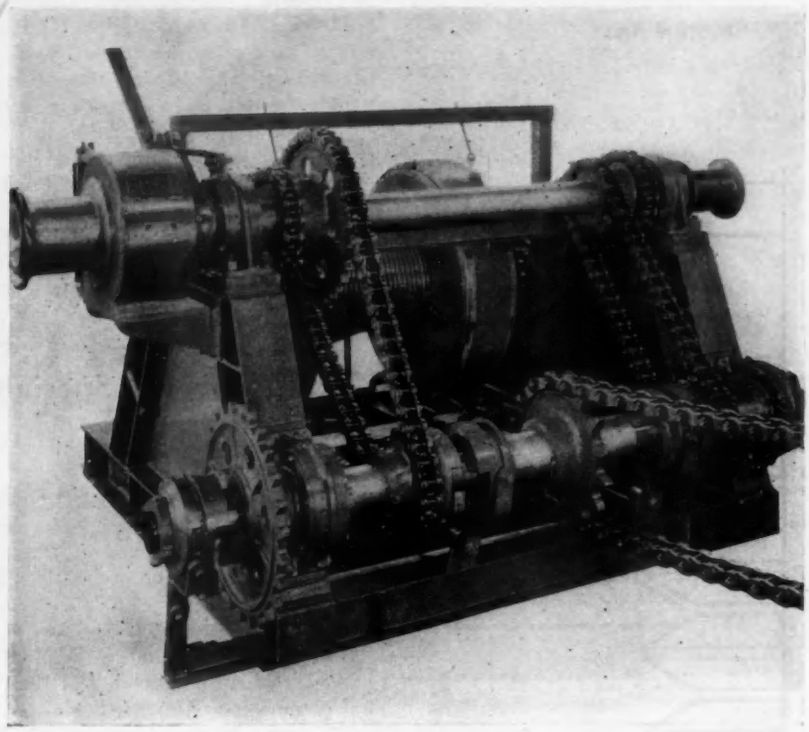


Big Jobs Demand

HEAVY DUTY BEARINGS

For Oil Field Equipment

● SKF makes practically *all types of anti-friction bearings.* When SKF recommends a particular type of bearing, therefore, you may depend upon it; its recommendations are *unbiased!*



SKF-EQUIPPED BUILT BY EMSCO DERRICK & EQUIPMENT CO.

THE **Big Jobs** of the oil industry don't always ask for big machines, or for big bearings, but they do demand the kind that can stand the gaff. Take 6,000-foot drilling with this Emsco Portable Drawworks, for instance. The bearings on drum, drive and counter shafts aren't so big, but they're TOUGH. They're SKF.

SKF Spherical Roller Bearings have the ability to withstand hard shocks in a narrow space on drawworks shafts . . . to give the heavy duty capacity that drilling requires. They're self-contained, self-aligning . . . need no adjustments . . . and require only infrequent lubrication. And the fact that Emsco have employed them for seven years is proof they stand up on important locations where dependable low-cost bearing performance is the thing that counts. So remember this: whether bearing jobs are BIG or *little*, SKF push the work through the *right* way and on time. SKF INDUSTRIES, INC., Front Street and Erie Avenue, Philadelphia, Pennsylvania.

SKF

BALL AND ROLLER BEARINGS 3385

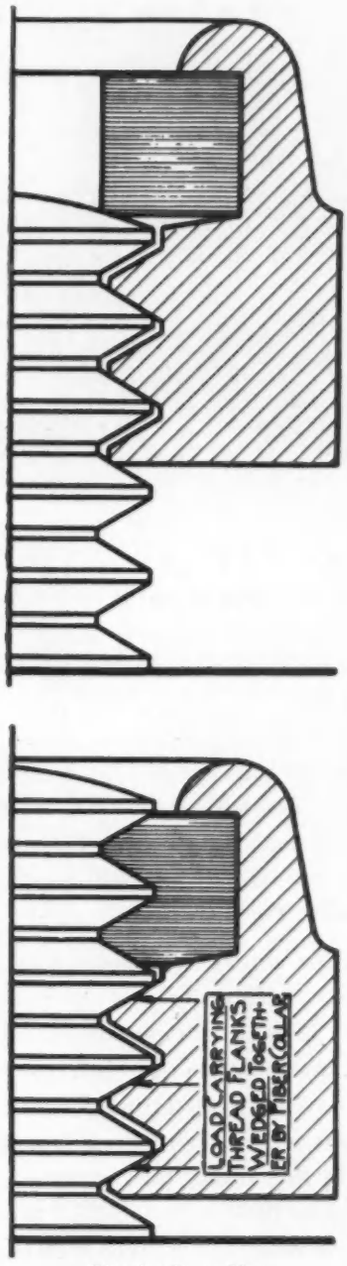
by giving accurate readings regardless of the weight suspended on the tool. The accuracy of the instrument is not affected by air in the system, by small leaks, or by temperature changes. Since there is no need to calibrate or adjust at frequent intervals, servicing during a location is negligible.

Brauer Machine & Supply Company

▪ ***Elastic Stop Nuts***

Brauer Machine & Supply Company, Houston, oil field distributors, is showing the elastic stop nuts, which is a standard nut with the height increased to incorporate a fiber collar. This added height corresponds approximately to the thickness of a lock washer. The fiber collar is made from one or more washers of special grade fiber, the diameter of which is smaller than the diameter of the bolt and not threaded.

When the bolt reaches the fiber collar, this collar, due to the smaller hole, momentarily resists further movement of the bolt. This bolt tries to push out the collar. In so doing it forces the nut upward until the thread flanks are in contact. The harder the fiber material, the greater the force necessary to get the bolt to enter and the harder the nut is pressed upward. After the upward pressure has reached the maximum the bolt enters the fiber collar. The fiber wedges into the bolt threads and no chips are removed. The fiber collar closes around the bolt with an airtight grip.



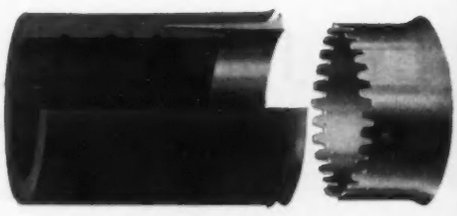
Elastic Stop Nuts

Texas Rubber & Specialty Corporation

▪ ***Duprene Packing***

Texas Rubber & Specialty Corporation, Houston, is featuring in its display a new adaption of Duprene, "the man-made rubber that is oilproof." The product, known as Okeh polish rod, self sealing, one piece packing, is designed so that the pressure of the oil seals, preventing excess friction as tightening of the packing is unnecessary.

This same design of packing is another adaption of the design now used in Okeh slush pump rod packing and Okeh swivel packing.



Okeh Duprene Packing

Mine Safety Appliances Company

▪ ***Safety Appliances***

Mine Safety Appliances Company, Pittsburgh, Pennsylvania, has an exhibit featuring a new development in the MSA combination hose mask. This fresh air mask has two outlets and is served by a hand-operated centrifugal blower of improved design, having ample capacity to supply two workmen through as much as 150 feet of hose on each outlet. The United States Bureau of Mines has awarded the unit Approval No. 1905.

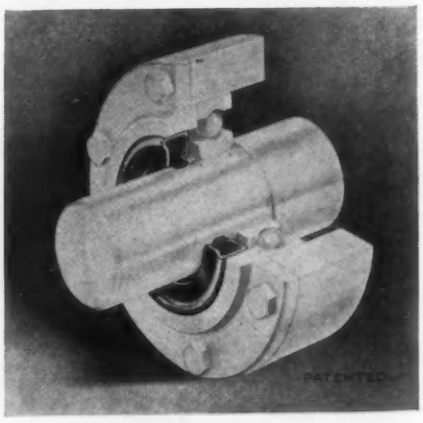
The exhibit also features the MSA "Comfo-Respirator," a type of dust respirator which has been awarded U. S. Bureau of Mines' Approval No. 2101, for protection against mechanically generated dust.

In addition, a general line of MSA safety equipment for oil field and refinery use is shown, including Burrell all-service gas masks, McCaa oxygen breathing apparatus, gas detectors and recorders, Edison electric safety lamps, non-sparking safety shoes, MSA skullgards, MSA safety goggles and a number of items from the line of MSA first aid equipment.

The Garlock Packing Company

▪ ***Packing***

The Garlock Packing Company, Palmyra, New York, is showing its line of packing. The exhibit centers around the company's new oil seal known as the Garlock Klozure. It consists essentially of an adapter, spreader, sealing member and case. The seal was developed after several months of research. The adapter is a metal ring flanged to contact the spreader. The spreader is a flexible metal ring with serrated or saw tooth edges formed into a V-shape to fit into



Garlock Klozure Oil Seal

the convex shape of the sealing ring. The sealing or packing member is made of a special composition which is moulded under heat and pressure into a ring having a cross sectional shape resembling a modified "V," or chevron. The case is made in hardened steel dies. It is made of steel unless otherwise specified.

A Special Job for the Busy Man

Eighteen complete oil country catalogs from that many leading manufacturers of oil country equipment ranging from 8 to 68 pages each are pictured above. You'll find them *all* in the 1935 Composite Catalog of Oil Field and Pipe Line Equipment—all of them and *more than two hundred others besides.*

Some companies are able to catalog their equipment thoroughly in one page. Others with a larger line require as high as 68 pages.

Every one of these catalogs pictured above, and the more than two hundred others included in the 1935 edition were developed for the busy oil man—for the man who doesn't have time to wade through a shelf or a box or a file of small catalogs and folders.

The 1040 pages of the 1935 Composite Catalog are jammed with information on live equipment. Use your catalog regularly—you'll find it completely indexed and cross indexed.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Mid-Continent Supply Company

▪ *Automatic Relief Valve*

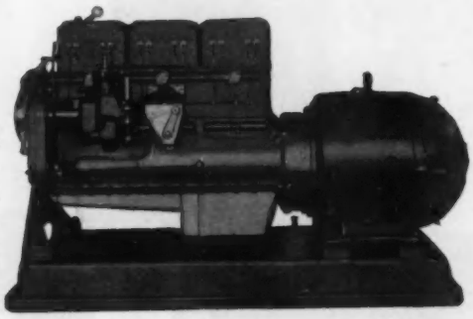
Mid-Continent Supply Company, Fort Worth, has included in its exhibit an automatic relief valve for installation on oil pipe lines, manifolds and pumps. The purpose of the valve is to relieve line pressure. It opens immediately and to full capacity at the desired relief pressure. It can be set to relieve working pressure from 100 pounds to 750 pounds by simply removing lead weights for reduced pressures and by adding lead weights for increased pressures. As the pressure rises above the desired working pressure the control head piston lifts, changing the ports and discharging the working pressure in a power cylinder into relief side of valve or suction line. When pressure drops below desired working pressure the control head returns to its original position, cutting off relief of power cylinder.

▪ *Williamsport Wire Rope*

Mid-Continent Supply Company also is exhibiting Williamsport Wire Rope, which is made in a wide variety of types to serve the different applications received in the oil industry. All Williamsport wire lines may be obtained to meet American Petroleum Institute Standards.

▪ *Cummins Diesel Engines*

A wide variety of Cummins Diesel engines are manufactured for every power need in the automotive, marine, railway, industrial and generating field. They are available in sizes from 40 to 205 horsepower for general continuous duty service and up to 500 horsepower for railway service. The manufacturer claims that the Cummins Diesel develops more power for its bore, stroke and revolutions per minute. A simplified injection system



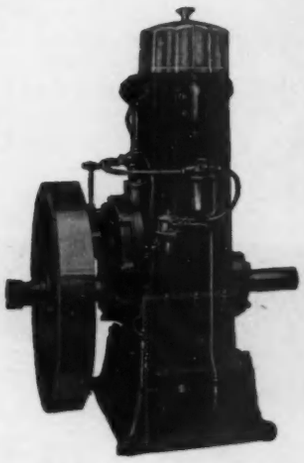
Cummins Generating Set

insures a smooth, even flow of power. They start instantly without blow torches or other preheating devices. Cylinder liners are renewable. The cylinder block is of special alloy iron. The crankshaft is mounted on seven main bearings. Pistons are of special alloy iron, carrying four compression and one oil ring.

▪ *Kennedye Centrifugal Mud Machine*

The Kennedye Centrifugal mud machine is composed of a heavy H-beam frame, a six-inch shaft with a double helix of rubber broken at frequent intervals, encased in a horizontal steel shell. The shaft operates on torque and thrust bearings, being driven by a small twin steam engine. Attached to the machine proper is a distributor ditch that permits flooding the entire screen regardless of the volume produced by the pump.

Below the shaft is an oil well type screen wound backwards so that the flat side is next to the rubber and the large opening below the screen prevents clogging. The screen is wound to approximately 40 mesh. Coarse sand, gravel, and the like, which will not pass through the screen is carried forward, dropped below the machine from whence it is jetted to the refuse pit. The good mud enters the mud pit from below the machine. In



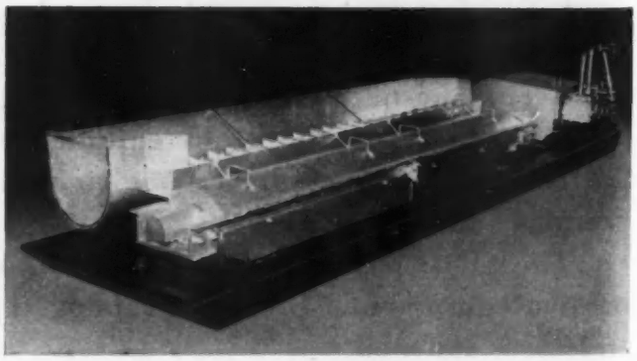
Stover Diesel Engine

operation of the Kennedye centrifugal mud machine, which may be seen in Mid-Continent Supply Company's booth, the returns coming directly from the well enter a settling tank, this circular tank with a conical-shaped bottom has a capacity of 50 barrels of fluid. On the interior of the tank an arrangement of spiral baffles forces the incoming fluid to travel in a spiral direction from outside to center, slowing the velocity of the material.

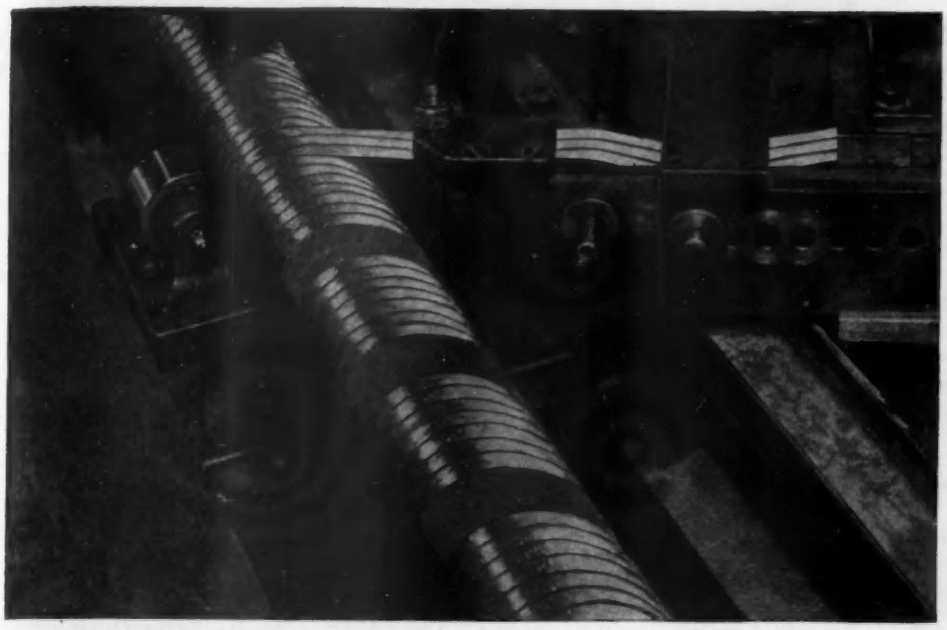
▪ *Stover Diesel Engines*

The Stover Diesel engine is of the four-stroke cycle, airless injection type. Proper and adequate lubrication is assured by a positive pressure lubrication system that provides continuous force feed lubrication to every moving part. The lower part of the main frame forms a sump in which a vertical plunger pump is located. The removable cylinder sleeve is cast from a special mixture of cylinder iron, is honed and can be removed easily. The Stover Diesel engine is manufactured in five and ten horsepower sizes.

Cummins 250-horsepower Diesel Engine



Kennedye Mud Machine



A view of the Thermoid Rotary Hose Wire Winder. This machine applies wire with the precision of a thread-cutting lathe.

All Wound Up to Withstand 10,000 Lbs. of Pressure!

No matter how carefully the tube, duck, wire and cover are selected, nor how high the standards of workmanship, the strength of a Rotary Hose . . . and therefore its life . . . depends upon the precision application of the wire.

Only by absolute accuracy in winding the wire can elongation be properly controlled, or a hose be made free from axial twist and longitudinal deformations.

In Thermoid Rotary Hose the wire is machine wound. This insures uniform tension and uniform spacing throughout; also, that the wire is wound at the PRESCRIBED angle.

To do this job right, Thermoid engineers designed and built a machine that winds wire with the same accuracy that a lathe cuts a thread. Such precision is impossible with manual application.

All Thermoid Rotary Hose specifications are checked by the manufacture of samples which are tested to destruction under hydrostatic pressure before being released for production. They must withstand tests at least four times the pressures recommended for field service. Specify the hose that is *mechanically wound up* to withstand 10,000 lbs. of pressure to the square inch.

NRA

Thermoid
MECHANICAL RUBBER GOODS
IT'S FROM "OILWELL"

OIL WELL SUPPLY COMPANY

Branch Stores in all Oil Fields

DISTRIBUTORS OF

Thermoid

PRODUCTS FOR THE OIL INDUSTRY

Including Drilling and Pumping Transmission Belts — Rotary Hose — Air, Steam, Welding and Refinery Hose — Brake Lining and Packings.

THERMOID RUBBER COMPANY,
Trenton, N. J.

Gentlemen:

Please send me complete information on your Precision Wire Wound Rotary Hose.

Name_____

Company_____

Position_____

Address_____

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Sperry-Sun Well Surveying Company

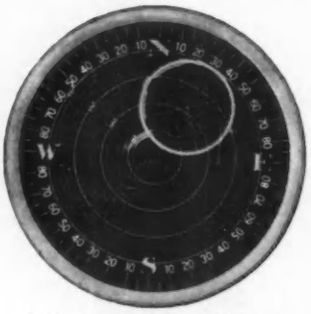
▪ ***Surveying Instruments***

Sperry-Sun Well Surveying Company, Philadelphia, Houston, Los Angeles and Tulsa, is showing a complete line of well surveying instruments.

Syfo Clinograph

The Syfo Clinograph, operating on the fluid level principle, enables the well owner to keep a continuous check on the verticality of his well while drilling. It is lowered through the drill pipe or dropped as a go-devil just before pulling drill pipe out of the hole.

The H-K single shot magnetic Clinograph, using a full floating compass, allows the owner to check both verticality and direction while the well is drilled. This instrument is run on a sand or bailing line in open hole each time the drill pipe is withdrawn.



H-K Single Shot Magnetic Clinograph

Surwell Clinograph

Both these instruments are on a rental basis, and are operated by the drilling crews.

The Surwell Clinograph, operated on a service basis, is a continuous surveying device using a gyroscope for determining direction and a fluid box level gauge for determining verticality, both being recorded by means of a 16 mm. film camera. This instrument is used in cased holes on a wire line, or in open holes on the drill pipe, and gives a continuous survey from top to bottom of well and back to top again.

On wire line surveys observations are taken at 100-foot intervals. On drill pipe surveys observations are taken at each stand of pipe.

National Tank Company

▪ ***Oil and Gas Separator***

National Tank Company, Tulsa, is exhibiting a working model of the National oil and gas separator. This model is made from transparent material and permits observation of actual internal separation. It is equipped with a new type liquid level control just developed by the company.

▪ ***Couplings and Tanks***

National Tank Company also is displaying the National "Tite-Line" coupling and models of belted steel tanks.

Grant Oil Tool Company

Grant Oil Tool Company, Los Angeles, California, displays a number of drilling and production specialties.

▪ ***Underreamer***

Grant's Type "C" underreamer is constructed of a single piece of forged alloy steel. The cutters are inserted from the inside of the body and pushed outward by a mandrel. A spring, or hydraulically operated, piston is inserted and a fishtail or diamond point bit screwed on the bottom of the tool. The tool can be operated automatically to expand when the spring is used. As soon as the underreamer passes below the shoe, the spring throws the cutters up against the formation, utilizing the total weight of the drill pipe to push the mandrel between the cutters while the pipe is being rotated.

By changing the spring to the hydraulic sleeve the underreamer can be lowered to any part of the hole and expanded against the formation. At this point the weight of the drill pipe will expand the cutters.

▪ ***Hydrostatic Bailer***

The hydrostatic bailer on display at the Grant booth is simply a long, empty tube, or casing, sealed off at the bottom, leaving the chamber above filled with air at atmospheric pressure. When the bailer is hit on the bottom of the hole, the breaker breaks the sealing disc, and the hydrostatic pressure of the column of fluid in the well causes this to enter the bailer, drawing with it foreign material such as sand and shale that may have been impeding production.

▪ ***Hydrostatic Perforation Cleaner***

Grant's hydrostatic perforation cleaner utilizes the same principle which causes the hydrostatic bailer to function, except that there is a mechanism which permits the operator to break the disc at any part of the hole, or wherever the perforations may be located.

▪ ***Adjustable Liner Puller***

Also on display is the Grant adjustable liner puller, designed to pull all sizes of pump liners. The spider is made of steel, and the screw head, which is variable to meet varying conditions, is of ball bearing construction. Rotation of the main screw in the pulling arm head causes the spider to travel, expanding or contracting the pulling arms to the desired diameter.

▪ ***Straight Reamer***

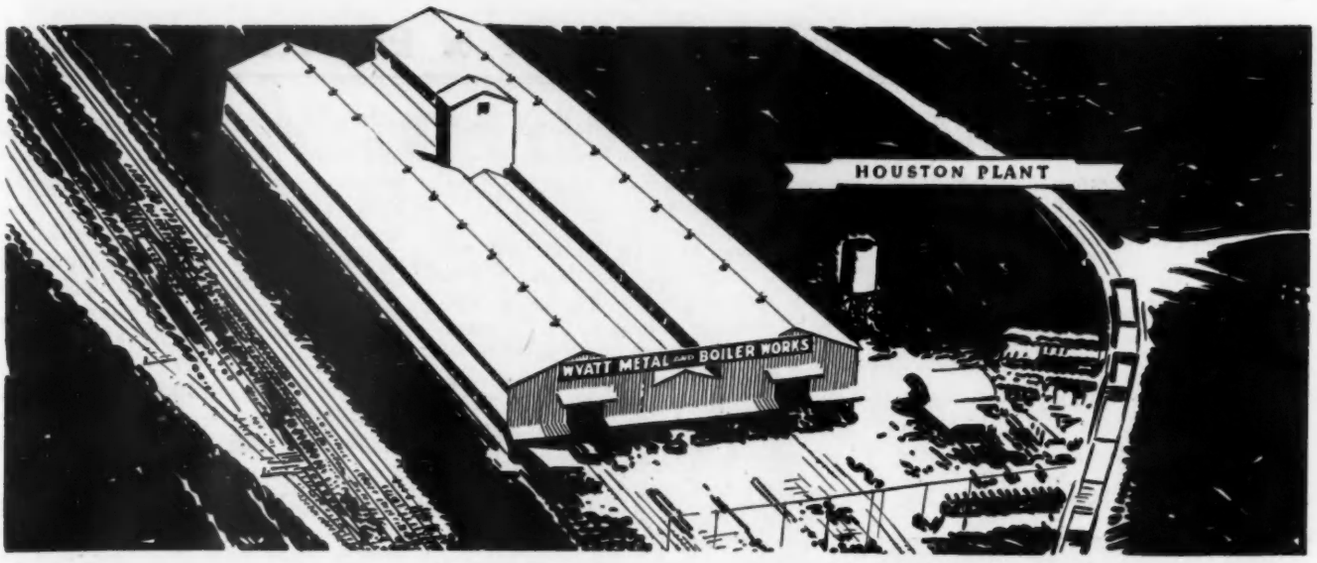
A feature of the Grant exhibit is the straight reamer, constructed of an all steel body with three cutters set therein at two angles. Any undersized portion of the hole that is to be rounded out is first met by the lower end of the cutter, and as the cutter is lowered and rotated it gradually cuts the hole to desired gauge.

▪ ***Pressure Release***

The safety automatic pressure release shown is designed to thread into a tee in the circulation system. The port through the seat is sealed off by a release plate which blows out and releases pressure before an overload can be exerted on the pump hose, fittings, or pipe.

▪ ***Cement Head***

The Grant "Lightning Change" cement head is constructed of an alloy steel body, attached to which is an alloy forged steel ring having a tapered seat on which steel balls are mounted. Above the balls an expansible ring is seated. This is expanded automatically by the pump pressure to seal the cementing head off. The head is lowered over the coupling to take hold and automatically seal itself. When the job is completed, a lever is moved which raises the balls to their open position and permits the withdrawal of the cement head.



OIL MEN FIND THE WYATT PLANTS

A Dependable Source of Supply

More and more are oil men throughout the Mid-Continent territory finding in the Wyatt organization the facilities, experience and cooperation necessary for efficient work on field and storage tanks, welded pipe and heavy refinery equipment of all kinds.

An Invitation to Oil Exposition Visitors

Visitors to the Oil Equipment and Engineering Exposition are invited to inspect the Houston plant of the Wyatt Company at any time during their stay in Houston. The plant is located at the crossing of the H. & T. C. tracks with the M. K. T. at Washington Avenue. Telephone Taylor 6145.

Refiners can order stills, columns and towers with full knowledge that specifications will be followed to the letter. Producers having field storage problems are finding the answer to efficient storage in the welded tank pioneered by the Wyatt Company. The welded tanks are also being used for lease storage providing equal salvage with bolted tanks. Welded pipe in large sizes is a recent service to oil and gas men in this territory. This pipe may be purchased in any length to the limit of truck or rail carrier's transportation facilities.

Pioneer Designers and Builders of All-Welded Steel Storage Tanks

WYATT METAL & BOILER WORKS
PLANTS AT DALLAS AND HOUSTON

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Baroid Sales Company

Baroid Sales Company, Los Angeles, California, is exhibiting its complete line of mud conditioning equipment.

▪ *Baroid*

Baroid is a specially processed pulverized Barytes. It is a uniform, water-ground product of approximately 4.2 specific gravity, and is used for controlling oil, gas and water pressures encountered during drilling.

Sack of Baroid

Baroid has suspending and wall-building characteristics, will not settle from the mud, even though circulation is suspended.

Where a drilling mud weighing between 75 pounds and 90 pounds per cubic foot (Sp. G. 1.20 to 1.50) is required, Baroid in sufficient quantities can be added directly to the mud in the circulating system. For preparing drilling muds heavier than 90 pounds per cubic foot it is recommended that Baroid and water alone be used. Pumpable muds weighing as much as 145 pounds per cubic foot (19.4 pounds per gallon) have been prepared from Baroid. Baroid is available in several different grades to meet various conditions encountered in drilling.

Aquagel Drilling Mud

▪ *Aquagel*

Aquagel is a specially selected and prepared clay which contains a high concentration of gel type colloids. This type of colloids is found in small quantities in all clays and is responsible for most of the desirable qualities of drilling muds. It is the gel-type colloids which give clays their wall-building properties in the hole.

Aquagel and water alone make an excellent drilling mud which weighs 64 pounds per cubic foot (Sp. G. 1.03) and has excellent sealing and wall-building characteristics, says the manufacturer. One hundred forty to 180 barrels of such mud can be prepared from each ton of Aquagel, this effecting a great saving in initial cost of mud.

In cases where a mud heavier than the above is required, the ordinary native mud made in the course of drilling usually will provide adequate weight.

▪ *Stabilite*

Stabilite is a liquid chemical compound, developed after several years of research and field tests, and used for reducing the viscosity of drilling muds without destroying the wall-building properties of the mud. Stabilite will release entrained gas from gas-cut muds. Stabilite treated muds will not settle out in the hole. It is of particular value when using weight-materials in the mud or in drilling through bad heaving or caving formations.

Stabilite Chemical Compound

Taylor Instrument Company and Industrial-Scientific Supply Company

▪ *Intermitter*

Industrial - Scientific Supply Company, Houston and Fort Worth, Texas, representatives of Taylor Instrument Companies, Rochester, New York, has on display the new Taylor intermitter developed especially for controlling either the flow from flowing wells or the input gas or air to wells on gas or air-lift. The intermitter can be used with any size diaphragm motor valve. It is housed in a square die-cast aluminum case, and all parts are either aluminumalloy or plated to resist corrosion. Furnished with standard clock of 12 or 24-hour revolution, but can be had with clock of other special revolutions. Unlike the previous types, cams do not have to be cut in the field, as with the new type, time intervals are easily adjustable with a screw driver.

Besides the intermitter, there will be displayed Taylor recording pressure gauges, meters, recording thermometers, regulators (both pressure and temperature), hydrometers and thermometers, as well as a general line of laboratory equipment.

Chain Belt Company

▪ *Drilling Chain*

The feature display of Chain Belt Companys exhibit is the Rex Deepwell Chains No. 1030 (A. P. I. 3) and No. 1240 (A. P. I. 4). Moving drives show how flexible this chain is and how smoothly it operates. The sidebards of tough heat-treated alloy steel are die cut to give strength and reduce weight for modern high speed continuous operation. Seamless alloy rollers, heat treated for hardness and toughness, are used. The seamless alloy bushings are casehardened and ground inside and out. The ground pins are of hardened alloy steel. These chains are especially designed for deep drilling.

Rex Deepwell Chains

▪ *Construction Equipment*

Chain Belt Company also is displaying Rex construction equipment such as, concrete mixers, pumps, moto mixers, etc. Various types of conveying equipment also is being shown.

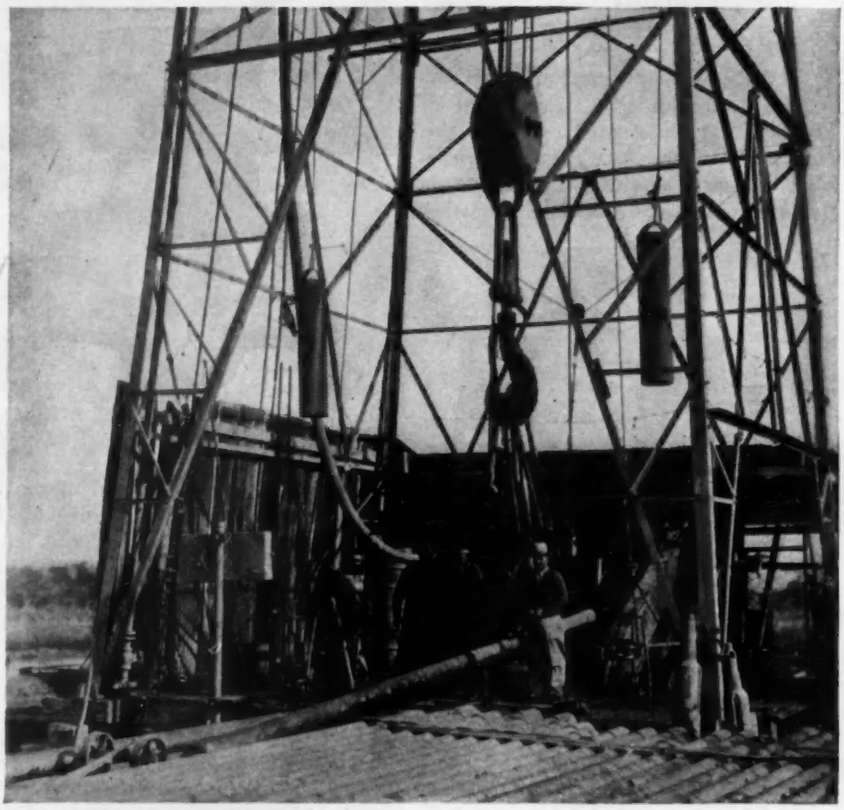
WHEN IT COMES TO RUBBER..

Drilling Contractor HUGH HODGES *comes to* "U.S."

Like many drilling contractors of wide experience, Hugh Hodges — operating in the Oklahoma City district — adheres to one policy when it comes to buying mechanical rubber equipment. He knows that — whether it's rotary hose, suction hose, steam hose, packing or belting — he will get the most completely satisfactory service simply by saying, "U.S."

You can buy any type of "U.S." mechanical rubber equipment with equal confidence. For "U.S." knows oil field operating conditions and oil field needs more thoroughly, perhaps, than any other manufacturer of mechanical rubber goods. This follows naturally after the many years that "U.S." has maintained specialists right on the ground, working out every kind of oil field problem with oil field men. Consequently, we can assure you that...like Hugh Hodges of Oklahoma City...*you* can most satisfactorily meet every rubber equipment requirement — in drilling, production or power transmission — simply by saying, "U.S."

United States Rubber Company
Stocks in All Industrial Centres
1790 Broadway, New York, N. Y.



Hugh Hodges' drilling rig uses 2½ inch "U.S." Matchless Rotary Hose and is completely equipped with "U.S." material.

"U.S." Giant Sand Suction Hose is in service on this Slush Pump, using "U.S." No. 101 Packing on the power end and No. 4480 Rings on the fluid end.

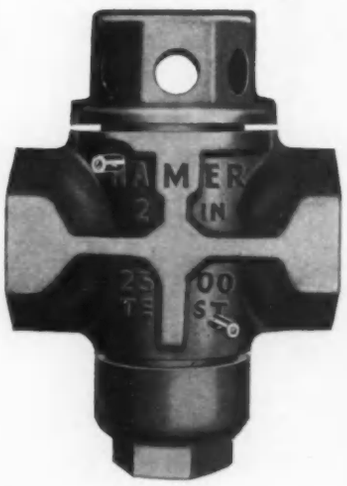
UNITED STATES RUBBER COMPANY — US — TRADE MARK

U.S. ROTARY HOSE — An Outstanding Value of the United States Rubber Company

Well Equipment Corporation

▪ ***Stop Cocks***

Well Equipment Corporation, Houston, has on exhibit the Hamer line of pressure-seal lubricated stop cocks, equipped with pressure grease lubricating buttons, making the operation flexible without loss of close-fitting



Stop Cock

adjustment. Manifold installation is expedited by wing nut and sub construction. A spring assembly holds the core tightly in place, and pressure seal rings are at top and bottom. It is built in 500 and 2500 pound test.

▪ ***Lubricated Plug Valve***

In this exhibit is the Hamer lubricated plug valve, which is turned by crow bar or piston rod, eliminating use of wrenches. Plug is raised easily or lowered by rotation. Either Alemite gun or a special stick grease can be used for lubrication, and a back-pressure check at bottom of grease chamber prevents loss of lubrication. A

Plug Valve

pressure seal ring is placed in the top portion of the body and around the plug to prevent leaks. The stop pin at bottom governs the open and closed position correctly. It is built in 5000 pound test.

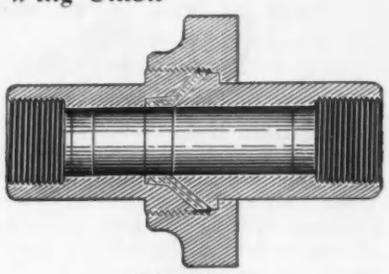
▪ ***Gage Cock***

Well Equipment Corporation also is displaying the Fischer gage cock, which the company distributes. This is the "free-wheeling" gage cock providing thousands of seats on the heavy lead ball. An extra heavy bronze ball holder and heat treated cadmium plated hinge bolt make it non-corrosive. Steam blows away from the fireman rather than toward him, due to the practical design.

▪ ***Pistons***

The Kibele line of slush pump and boiler feed pump pistons on display present a simple three-piece construction with a renewable rubber packing ring, which, when replaced renews the piston without the necessity of removing the piston rod from the crosshead. These pistons embody the fluid expansion principle, causing automatic expansion from internal fluid pressure, forming tight fitting condition even after rubber packing ring is highly worn.

▪ ***Wing Union***



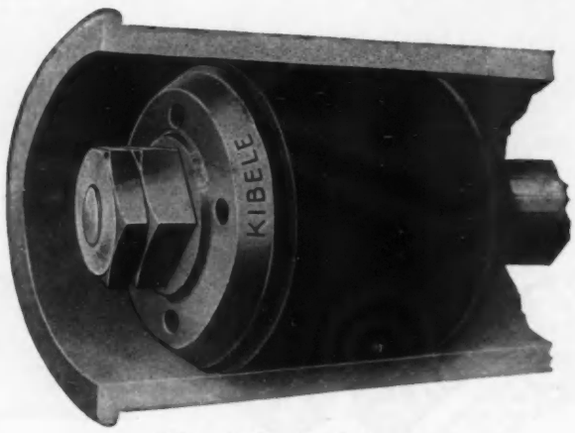
Wing Union

A wing union for speeding up assembling and dismantling on any type of assembly, is on display in this booth. The design includes subs sufficiently long to apply chain tongs, and the wing is built to permit tightening with a hammer. It is all steel with replaceable bronze bushings to prevent leaky joints.

▪ ***Well Swabs***

The complete line of Kibele swabs are exhibited in this booth. Here will be demonstrated the easy change from the Kibele one-cup to the Kibele two-cup swab by the mere addition of the secondary cup assembly. Also the conversion of a Kibele casing swab from one size to another by merely substituting the alternate cup assembly. Kibele swab cups are flexible and expand by internal fluid pressure, creating a tight seal between the cup and casing, automatically compensating for wear on the rubber. The Kibele

Fischer Gage Cock



Kibele Boiler Feed Piston

OIL MEN

See These Bits for Every Condition

WE ARE LICENSED
TO MANUFACTURE, SELL AND SERVICE

ALL THREE

of the OUTSTANDING BITS . . .

THAT LEADING OPERATORS SPECIFY

1

T-I-W APPLEMAN BIT

2

T-I-W FULL HOLE BIT

3

T-I-W CHRISTIAN BIT

All of the above are licensed under Appleman Patent No. 1,882,268

QUICK DELIVERY

FROM ~ LARGE ~ STOCKS

Also See at the Show:

T-I-W SLIPS—*The most complete line in the world.*
T-I-W PACKERS AND SETTING TOOLS
T-I-W VALVES
T-I-W CASING AND TUBING HEADS
And Many Other T-I-W Products

TEXAS IRON WORKS

SALES CORPORATION

HOUSTON, TEXAS — **1401-1423 *Maury Street***

tubing swab is a short design to permit easy passage through crooked tubing. The fluid is extra large to allow fast sinking and thereby prevent kinking of swab line.

1-Cup Casing Swab

Tubing Swab

▪ *Tubing Catcher*

Displayed for the first time is the Kibele tubing catcher which brings to the field a stepped mandrel of great slip area, which in turn distributes the load over a greater pipe area. The design offers protection against rupture of pipe when the catcher contacts pipe in its drop. The weight and all other parts of this catcher are streamlined, the catcher being turned out of a one-piece seamless tubing. The increase in the area of the slips does not in any way block the fluid passage, which is extra large.

Tubing Catcher

▪ *Drop-Forged Fittings*

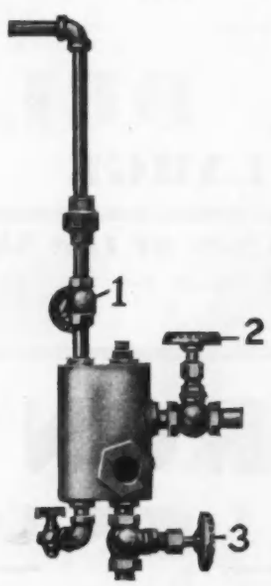
In this exhibit is the line of Exner-Dodge seamless bull plugs and swaged nipples, which recently have been introduced into the Gulf Coast territory by Well Equipment Corporation. These bull plugs and swaged nipples are

Exner-Dodge Bull Plug and Swaged Nipple

drop-forged from stock of highest quality steel for the purpose. The forging method results in equal thickness at the turn to that thickness of the side walls, permitting the withstanding of pressures ordinarily held by fittings of much greater thickness and resulting greater weight. This line of bull plugs and swaged nipples are lathe threaded to minute precision.

▪ *Steam Line Lubricator*

Well Equipment Corporation is exhibiting the Badget Steam line lubricator, which is attached to steam line and operated by water pressure, caused by condensation in top of the water chamber. Pressure is downward, entering oil chamber at bottom, raising oil to top, discharging through oil line to sight feed, and through sight feed into steam line. It works on the hydrostatic principle and is built to handle any kind of steam, especially superheated, and any pressure that the steam line will carry. It has no moving parts and is not affected by vibration.



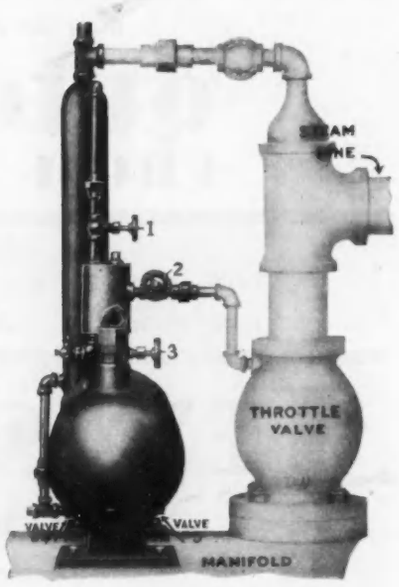
Badgett Sight Feed Lubricator

▪ *Badgett Sight Feed*

Also exhibited is the Badgett steam lubricator sight feed, constructed with a double chamber. Condensation enters and passes through this sight feed constantly, making the sight feed self-heating and self-cleaning. Through the unique double chamber arrangement, water is changed in the sight feed every few minutes.

▪ *Steam Engine Lubricator*

In this display is shown the Badgett steam engine lubricator for use on engines which do not have pads on the manifold. It works semi-automatically, adjusting itself to the amount of steam used. It is operated by water pressure, caused by condensation in top of the water chamber. The course of the pressure is the same as that in the Badgett steam lubricator.

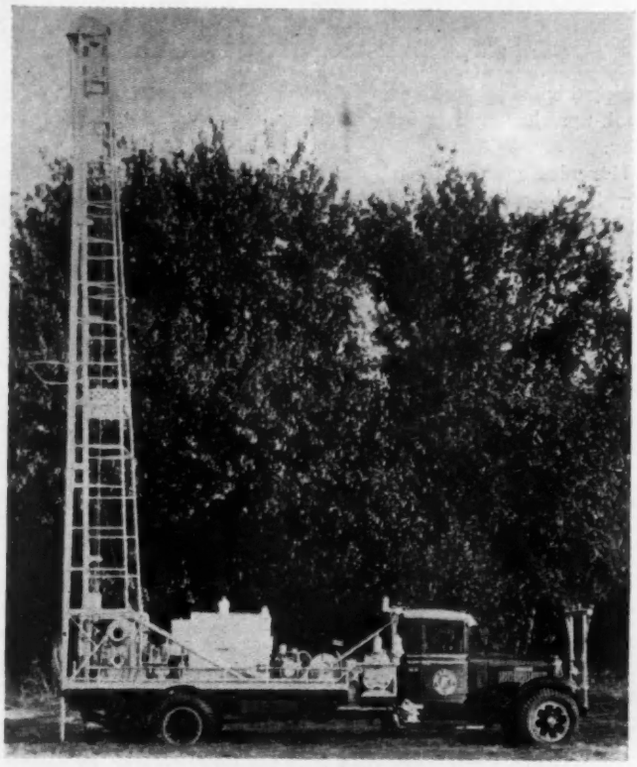


Badgett Steam Engine Lubricator

SPEED

Moving Setting Up Drilling

Takes the Wild out of Wild Catting



FAILING CORE RIG

CORRELATION . . . KEY BEDS *of* Known Geological Sections Quickly DRILLED at LOW COST Per Acre

NOTE: ***Rig in Operation at Houston Show***

George E. Failing Supply Company

ENID, OKLAHOMA **HOUSTON, TEXAS**

Hercules Tool Company

▪ *Hercules Casing Heads*

Hercules Tool Company, Tulsa, manufacturers of oil well specialties, and specializing largely in patented tubing, casing heads and other items for well hook-ups, has a complete line on display.

Hercules pioneered tubing and casing heads with slips that apply the packing above the slips. This construction permits repacking without lifting

Hercules Type B Casing Head with Slips

the inside string or disturbing well hookup in anyway. Special steel and rubber packing rings are compressed down on top of the slips by means of a split steel packing nut. On outside at top is an A. P. I. casing thread for use of overshot or blowout preventer. Two three-inch side outlets are provided. As shown by cut, casing mandril can be furnished instead of slips for casing wells under pressure.

Type B is a high pressure forged steel head for wells up to 7000 pounds pressure. Type A is of similar design but of cast steel for wells up to 3000 pounds pressure.

▪ *Hercules Tubing Heads*

Hercules tubing heads are characterized by the same general features as the Hercules casing heads, slips or mandril being used to suspend the tubing, with the same method of "overhead" packing. Types C-3 and OC are

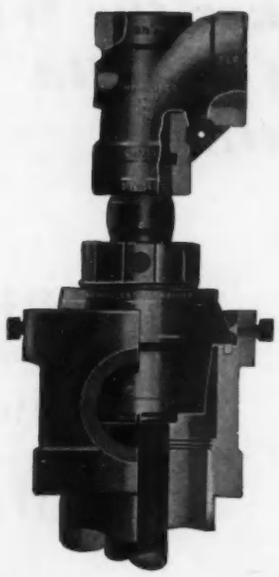
Hercules OC Type Forged Steel Tubing Head

very similar, but the OC Type has outside diameter same as casing, permitting the running of tubing catchers or anchors and other devices without changing or stripping any connections. These types are of forged steel, tested for pressures up to 5000 pounds.

The type L is designed for tubing wells under pressure with the use of mandril and blowout preventers screwed on to the tubing head. Hydraulic packing compressed by a packing nut packs off the well between tubing and tubing head. This packing can be replaced without disturbing the well connections or danger of tubing being blown out of well.

▪ *Hercules Tubing Hanger, Upset Pumping and Flowing Tee, and Flow Head*

The pumping well hook-up at left shows the Hercules tubing hanger and upset pumping and flowing tee in use with upset tubing and ordinary casing head. The Hercules tubing hanger utilizes slips to suport the tubing, a rubber packing ring being compressed firmly down on the slips by a packing

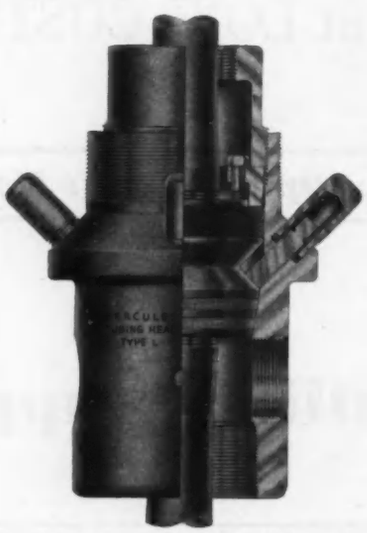


Hercules Pumping Well Hook-up

nut to give a sealtight pack. This hanger eliminates hazard of dropping tubing caused by pinched off collars, rigs being burned or blown down, or other accidents. Body is of forged steel.

The Hercules combination thread tee with both upset and regular threads on the bottom, eliminates cutting off upset threads of tubing to make a connection or use of a reducing nipple. 90-degree side outlet is three inch diameter on 2½-inch tees. There is a one-inch opening on back side for bleeder or pressure gauge. Furnished

Type B Casing Head with Mandrel



Hercules Type L Forged of Cast Steel

for DEPENDABLE *Performance*

Ludlow Gate Valves have a clear opening and all parts are of sturdy construction. The heart of the valve—the gate mechanism — employs the simple, rugged Ludlow principle of wedging — time tested— efficient — dependable. Thousands of these valves are in use on oil and natural gas lines—many have been in service for over 35 years.

And, if you need a special valve, come to Ludlow. Our thorough knowledge of oil and gas requirements assures a valve that will be of correct design and which will render the type of service you want.

The next time you need valves . . . standard or special . . . write LUDLOW

The LUDLOW VALVE MFG. COMPANY

TROY · · · · NEW YORK

TRU·LAY *Preformed* ROTARY LINES

● In Tru-Lay Preformed Rotary Lines there are no service-crippling stresses; no pulling and straining and cranky resistance. That is because Tru-Lay is preformed and being preformed possesses the following advantages:

1. Does not have to be back twisted;
2. Is easier to thread through the traveling block, crown block and eye in drum;
3. Spools tightly even under the light weight of idle block;
4. Whips less at high speeds;
5. Resists kinking and requires no seizing;
6. Lasts longer, thus cutting down replacement, labor and shut down costs.

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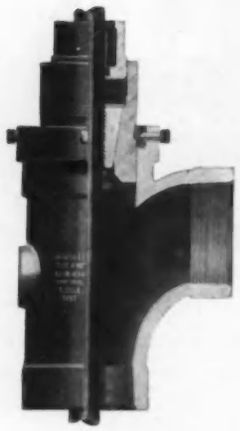


Type A 90° Flow Head

with 10 inch or 11½ inch threads—also with British standard threads.

The Hercules flow head is for use on wells which are flowed through the annular space. They are similar to Hercules tubing heads except that bodies are made with either a 90-degree or 45-degree side opening which is the same size as the casing on which they are to be made up. On opposite side there is either a two-inch, three-inch or four-inch opening. The body has an oil saver top. Made of electric cast steel test for 3000 pounds pressure.

▪ *Hercules Tubing Anchor*

Tubing Anchor

The Hercules tubing anchor is a bottom-hole tubing support which eliminates parted tubing trouble and is positive assurance against dropping tubing while same is suspended or being pulled. Three friction springs, each with two friction surfaces, give double assurance of anchor operation. Anchor is set by turning tubing one third turn to left, which places slot pin in vertical slot, then lowering body of anchor into the cage and slips, thus forcing the latter into contact with the casing walls.

The anchor can always be controlled at the casing head and can be raised or lowered at will, making it adjustable to fluid pumping level.

Eastman Oil Well Survey Company

▪ *Survey Instruments*

Eastman Oil Well Survey Company, Houston, Texas, has on display the Eastman improved single shot survey instrument which has been designed to meet Gulf Coast conditions. This instrument, suitably encased in a non-magnetic barrel, is lowered into the well on either a sand line or on the drill pipe. It takes a permanent photographic picture of the angle the well is off vertical and the direction from vertical the well has deviated. The design, as demonstrated, permits ease of inspection, loading and developing.

Single-Shot Instrument and its Recording Chart.

The Joyce-Cridland Company

▪ *Joyce Jacks and Lifts*

The Joyce-Cridland Company, Dayton, Ohio, is showing the complete line of Joyce heavy-duty industrial lifting jacks, including ball bearing geared screw type, used for pulling oil well casing and for general construction work.

Joyce Emergency Jack

The company also is showing the complete line of automatic lowering lever type jacks from five to 50 tons capacity for general construction and maintenance service. This line includes the Joyce emergency jack, No. 78, around which the Joyce exhibit is built.

Also on display is the heavy-duty air motor driven jack hoists up to 100 tons capacity, which completely eliminate manual labor in pulling casing and all extremely heavy lifting operations.

The complete line of hydraulic jacks, standard and telescoping type for automotive and industrial uses also is being shown. This is a new addition to the Joyce line.

Also on exhibit is the Joyce hydraulic automobile lift and free wheeler jacks for service station work.

The Lunkenheimer Company

▪ *Valves and Specialties*

The Lunkenheimer Company, Cincinnati, Ohio, exhibit comprises bronze, iron and steel valves and other engineering specialties adaptable for the petroleum industry. Sectioned models enable visitors to observe and study the superior design and workmanship.

One very interesting feature of the display is the line of corrosion resisting valves. These valves are constructed of materials of proven merit, are of rugged design and good workmanship, complying with the widely known "Quality" standards of The Lunkenheimer Company.

Of special interest are the new lines of plug type and full-way "Ferrenewo" and "Renewo" valves. Plug type with "NS5" alloy seats and discs of great hardness to resist galling, abrasion, erosion and corrosion and full-way "NT4" alloy seats and discs for general use.

Also of interest is the line of corrosion resistant valves: "Causul" metal gates; "SA" valves, all-iron "Ferrenewo", all-iron "Kingclip" and the iron automatic liquid gauge with stainless steel trim.

Other products on display include the "Alvor" constant level oil control, a device for maintaining the proper oil level in ring oiled bearings; non-metallic-disc valves, new air nozzles, steel needle valves, etc.

This is one of the new International Model C-40 Trucks recently purchased by the Consolidated Oil Well Cementing Corporation, Longview, Texas. The equipment shown on this International consists of a patented cement mixer, two steam pumps, and a fluid tank, and is used to cement casing in oil and gas wells.

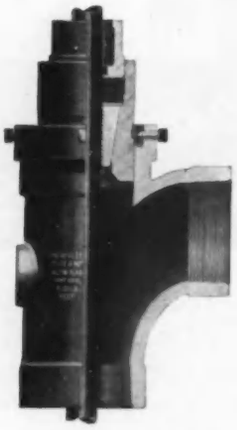
Transportation AT LOW COST

ECONOMY is the sum and substance of truck ownership. You may do without economy in a car but the truck is a stern business proposition. It has always been so—*but today more than ever.* For more than thirty years International has sought one objective — transportation at the lowest possible cost for the man with loads to haul. That is the root and heart of International Truck success.

That 30-year endeavor bears sound fruit today in the new Internationals. Their unfailing day-in and day-out service will give you a new idea of dependable truck performance. And every mile they run and every load they haul will be a revelation to you in lower figures on your cost sheets. The more minutely you examine their advanced design and construction the easier you understand their outstanding stamina and performance. And the more you talk to single owners or fleet owners, the more impressed you will be with the low-cost hauling Internationals deliver. Sizes range from ½-ton to 10-ton. Sold and serviced through 230 Company-owned branches, and dealers everywhere.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. (OF AMERICA Incorporated) **Chicago, Illinois**

INTERNATIONAL TRUCKS



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INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. OF AMERICA (Incorporated) **Chicago, Illinois**

INTERNATIONAL TRUCKS

Kinzbach Tool Company

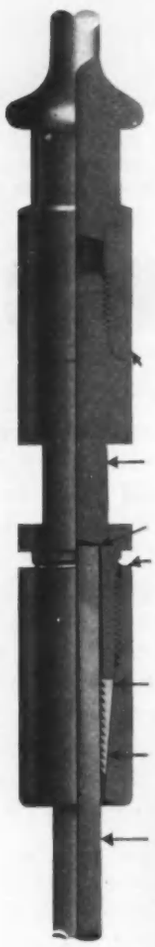
▪ *Whipstock*

Kinzbach Tool Company, Houston, is displaying its whipstock which uses a small bolt and nut to attach it to the drill stem for lowering it into the hole. After the desired depth is reached, and the stock is set, the weight of the drill stem will shear the bolt and leave the whipstock set in the desired position. The Kinzbach whipstock has a patented hinge that forces the concave section to lie back against the casing wall. This prevents starting a mill on the wrong side of the taper. A spring controls the trigger, which sets the slips in place. An 18-inch margin is allowed in which rotary slips may be removed. In other words, the drill pipe might be lifted 18 inches before the trigger is sprung to set the slips. The trigger is so placed that when the pipe is lifted, it will engage the end of a joint of pipe in a coupling and hold till the slip has been tripped and set. This forces the tapered section of the whipstock to lie between the coupling and the one immediately above, assuring a clean window between couplings.

Left: Kinzbach Whipstock.

▪ *Kinzbach Pony Rod Eliminator*

This pony rod eliminator eliminates the necessity of keeping in stock various rod lengths for making up a string. It permits the use of any extra piece of sucker rod, sawed off to required length. The sawed joint is placed in the pony rod eliminator and held securely with slips and locking bowl.



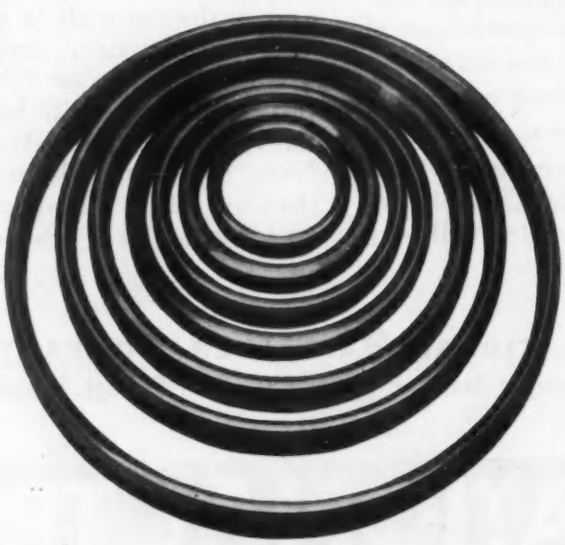
Pony Rod Eliminator

▪ *Kinzbach Mill*

In this device, high speed tool steel cutters, set spirally in high quality steel head, cuts a long, clean, consistent window. This principle lessens the chance for twist-off due to tool large bites, according to the manufacturer. Ample clearance between the blades facilitates removal of cuttings.

▪ *Utility Hoist*

This is a safety hoist that handles five tons with a single five eighths-inch line. It has no rope cat-line and is controlled with powerful multiple disc clutch operated by foot pedal and disc brake controlled by hand lever. Handles all hoisting operations supplementary to the rotary hoist. It is made in size power shaft and doesn't interfere with regular drawworks mechanism.



Kinzbach Metal Gaskets

Kinzbach Mill

▪ *Kinzbach Automatic Tank Gauging Device*

The Kinzbach automatic tank gauging device is a mechanical tool for taking tank fluid levels without the hazard of climbing to the roof of the tank. It is controlled by a float set inside the tank, which rises and falls with the fluid level. Readings are taken through a reading glass placed on the outside of the tank at any convenient height.

▪ *Metal Gaskets*

Kinzbach steel and bronze ring gaskets in all sizes are machined to exact specifications to meet varied requirements for high and low pressure fittings.

Lee B. Mettler Company

▪ *Boiler Burners*

Lee B. Mettler Company, Los Angeles, is showing gas and oil burners for all classes of oil field and stationary boilers. The company is featuring the Mettler entrained combustion low-pressure gas burners made in sizes from four horsepower up. The Mettler entrained combustion principle permits intimate mixing of air and fuel before entering the combustion chamber, thus giving even and complete combustion resulting in easy operation and high efficiencies, according to the manufacturer.

PERFORMANCE SPEAKS LOUDER THAN WORDS SO INSTALL AXELSON PUMPS & SUCKER RODS

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P. O. Box 710, Vernon Station, Los Angeles
St. Louis 50 Church St., New York Tulsa
Mid-Continent and Eastern Distributor: Frick-Reid Supply Corp.
Rocky Mountain Distributor: Great Northern Tool & Supply Co.

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You are losing time and money

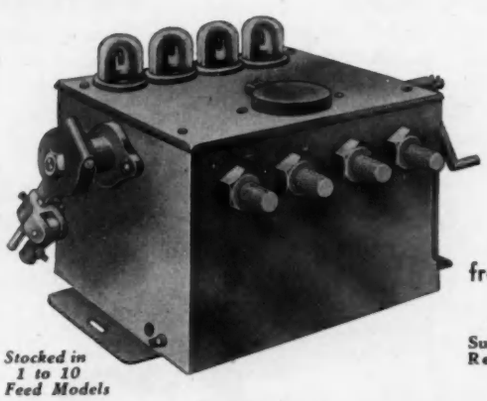
The unusual performance of "Standard" Lubricators in drilling departments has completely sold the oil field. Drilling crews say these lubricators are the most successful they have used because of their dependability and simplicity.

The "Standard" Lubricator is particularly recommended for super-heated steam, and its performance is GUARANTEED. It is adaptable, without change in mechanism, to both high and low pressure steam pumps, or for use as a chemical injector.

Standardize with "Standard" Lubricators

STANDARD
FORCE and SIGHT FEED
LUBRICATORS

"Standard" Lubricators are equipped with roller-bearing clutch instead of ratchet wheel, pawl and springs; with bronze oilless bearings instead of stuffing boxes; with die-cast pumping unit; with stainless steel plungers, hardened, precision-fit stainless steel valves (no balls). They give positive lubrication at lowest cost during their long life service. They may also be had with pulley wheels.



Stocked in 1 to 10 Feed Models

½ Pint to 2 Gals. per 24-Hour Day from Each Feed

Your Oil Field Supply House CAN Recommend Best Application.

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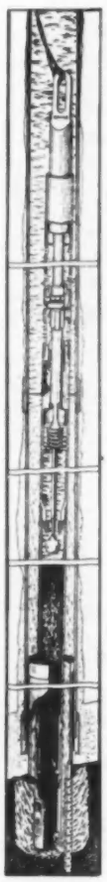
EQUIPMENT Featured at Oil Equipment & Engineering Exposition

The Cavins Company

▪ *Hydraulic Cleanout Tool*

The Cavins Company, Long Beach, California, and Cavins Bailer Service Company, Houston, are displaying the Cavins cleanout tool, which is a combination bailer, fishing tool and perforation washer and cleaner. According to the manufacturer, it saves dollars in time, labor and expense as well as increases production.



The Cavins utilizes the pressure at the bottom of the well by creating a tremendous hydraulic suction that pulls into the load chamber all loose sand, hard packed mats, pieces of rock, wood, iron and steel of any size that can pass through the bottom opening.

When used for clean-out jobs, it eliminates the necessity of spudding or running a string of tools. It can be run as soon as the tubing is pulled, operates automatically and at high speed, bringing up from 18 to 20 feet of sand or millings in the load chamber on each run.

For fishing purposes a junk basket or junk tool is attached on bottom in place of the regular shoe, and recovers articles of every description that can get past the opening; in some instances, whole slips or other metal weighing as much as 40 pounds.

The enormous hydraulic suction created by the tool causes the fluid to wash back and forth through the perforations of the screen pipe, cleaning them thoroughly and recovering the sand from behind as well as within the liner.

Mosher Steel Company

▪ *Mosher Pumping Unit*

Mosher Steel Company is showing a geared pumping unit. The large herringbone gear is 50 inches in diameter and has a 10-inch face. The shaft is 6½ inches in diameter. The high speed shaft has roller bearings, all other bearings are bronze.

The walking beam has a reservoir in the center feeding bearings. All bearings in unit, walking beam, sampson post and hanger are flood oiled.

The special advantage of the unit is in the adjustment of the weights on the cranks. They have an adjustment of 360 degrees. Without adding or deducting from the weights but simply changing the position, the balance can be changed. It is especially adapted for a back side crank pumping of one or more additional wells. For a two well hook-up the weights would be placed between the two loads taking up any inequality in balance and acting as a fly wheel and on any arrangement of wells the weights can be quickly adjusted to balance the load.

▪ *Derrick Sub-Structure and Engine Foundation*

Steel sub-structures for high-pressure gas and other areas provide an accessible place for well control equipment in addition to eliminating the necessity of digging a cellar.

Mosher Steel Company can provide a foundation of equal height for the drilling engine when the derrick is built on a sub-structure. This foundation consists of a special structure of steel beams bolted together. It can either be dismantled or moved as one piece. Both engine and engine foundation can be tied quickly and securely to the derrick sub-structure with the tie rods.

▪ *Mosher Steel Pipe Rack*

These steel pipe racks are one of the latest developments. They are simple in construction, portable, and of long life. Mosher Steel Company is displaying its standard pipe racks constructed of steel I-beams and are prepared to make various other types to meet customers specifications.

Connector Construction Company

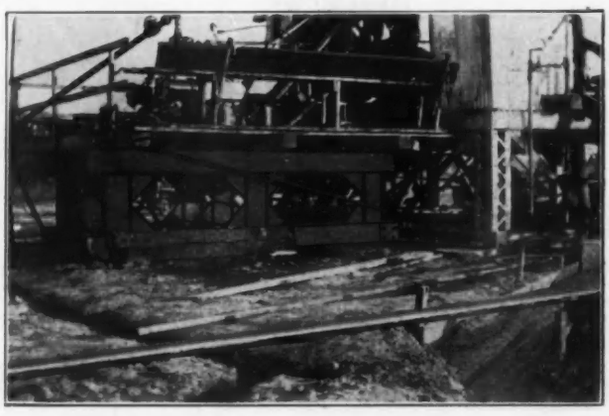
▪ *Modern Sub-Structure*

Connector Construction Company, Houston, is showing in an outside exhibit a modern derrick substructure built through the use of modern ring connectors and Wolmanized timbers.

This new method of building derrick and engine substructures and pipe racks facilitates assembling and dismantling of structures, and provides 100 percent salvage. The timbers employed are treated with Wolman salts for long life, fire retarding and anti-rot. No nails are used in any part of the structure. While the structure is held together with bolts, as a matter of added safety, the modern connector rings carry the entire load.

All these modern structures are assembled at the treating plant, after timbers have been cut, bored and grooved, to eliminate the necessity of skilled labor in the field. Following each test assembly, the structure is dismantled for shipment, and the lengths allow easy portability over even narrow roads.

Mosher Geared Pumping Unit



Mosher Derrick Sub-Structure and Engine Foundation

The New EMSCO TYPE CA OIL COOLED SWIVEL

Embodies Many New Features That Assure

LONGER LIFE
TROUBLE-FREE PERFORMANCE
INCREASED CAPACITY

For Drilling The Deepest Wells At Greater Speed

300 TON CAPACITY

EMSCO
A Complete Line of Better Oil Well Equipment

The New Emsco Type CA Swivel is an improvement over the Type 150-T swivel which previously has been the favorite of operators in many fields. It will safely and easily handle the tremendous loads imposed upon it in modern deep well drilling. Among other important features are:

POSITIVE ALIGNMENT OF SLEEVE WITH WASH PIPE, eliminating wear of packing and assuring equal distribution of load on main thrust bearing . . . ALEMITE LUBRICATION direct to packing, greatly prolonging life of packing and eliminating all danger of binding on the sleeve . . . EASILY REMOVABLE SLEEVE, with rubber seal between coupling and sleeve to prevent leakage . . . "PERFECT" OIL SEAL RINGS, constructed so as to permit easy removal without disturbing other parts . . . LARGE FLUID PASSAGE (4 inch) reduces back pressure and increases efficiency of high pressure pumps . . . ONE PIECE BODY of steel casting, heavily reinforced by ribs around inside, as well as vertically . . . OIL CAPACITY 53 GALLONS, with oil jacket extending completely around bearing body. Large oil expansion chamber with relief valves permits "breathing" action and eliminates internal pressure due to heat.

For detailed information on the Emsco Type CA Swivel, write for Advance Engineering Folder No. 133.

EMSCO DERRICK & EQUIPMENT COMPANY
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All Emsco Machinery and D+B Products Sold Exclusively in Mid-Continent Fields By The Continental Supply Company. All Emsco Derricks and Derrick Equipment Sold Exclusively in the Mid-Continent By Emsco Derrick & Equipment Company, Continental Bldg., Dallas, Texas. Export Office: Continental Emsco Co., 30 Rockefeller Plaza, New York.

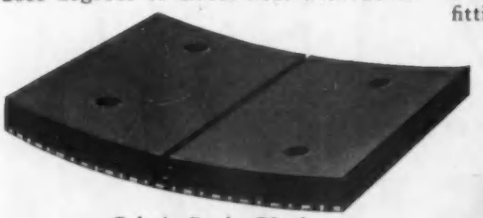
EMSCO

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

E. M. Smith Company

▪ *Grizzly "35" Brake Blocks*

E. M. Smith Company of Los Angeles is exhibiting its new Grizzly "35" full-moulded brake blocks, made of a material that successfully withstands 2000 degrees of direct heat without injury, contains an efficient lubricant that lubricates the brake rims and, therefore, is exceptionally efficient in heavy duty oil field service.



Grizzly Brake Block

▪ *Grizzly Drill Pipe Protectors*

This company also is exhibiting the Grizzly drill pipe protectors which have made such exceptional records in deep wells. These protectors have large full-rubber bumpers, in combination with a malleable hinged cage that gives tremendous gripping power and prevents slipping on the pipe. They are supplied in all standard sizes.

Grizzly Drill Pipe Protector

▪ *Powerflex Rotary Hose*

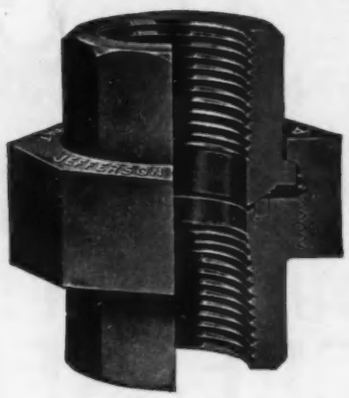
A heavily armoured hose with an extra thick tube of the toughest rubber having a full 2½ inch opening; built to withstand the highest pressure encountered in deep drilling, also is being exhibited by this company together with Grizzly rotary hose, steam hose, Turley rotary hose couplings, Grizzly raw edge and endless belts, and various other Grizzly products.

Emsco Powerflex Rotary Hose

Jefferson Union Company, Inc.

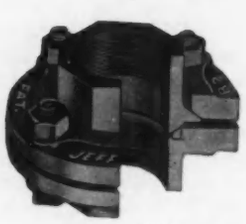
▪ *Unions and Fittings*

Jefferson Union Company, Incorporated, New York, New York, displays a line of unions, pipe flanges and fittings. The unions and flange unions are made of air refined malleable iron with an average tensile strength running from 54,000 to 56,000 pounds per square inch. Style A unions have a hydraulic pressure rating ranging from 1500 pounds for the one-eighth inch size under oil, gas and water conditions to 800 pounds for the four inch size. For steam pressure where total temperature of the saturated or superheated steam does not exceed 550 degrees F., hydraulic pressure ratings run from 500 pounds for the eighth-inch size to 300 pounds for the four-inch size.



Style "A"

Style B flange unions are made in sizes ranging from two to eight inches, with pressure tests running from 2000 to 800 pounds. Style D flange unions are made and shown in sizes ranging from two to 12 inches, with pressure tests ranging 4000 to 1250 pounds. Style E flange unions are made in sizes ranging from two to 10 inches, with pressure tests ranging from 4000 to 2500 pounds. All bolts for the flange unions are made of heat treated alloy steel.



Style "B"

Style "D"

Style "E"

Ford Motor Company

▪ *Ford Cars and Trucks*

Ford Motor Company, Houston, Texas, has on display a number of transportation units equipped for various oil field uses.

There are shown two special six wheel units for five ton loads, designed especially for use on rough roads.

Another unit displayed is a new Ford V-8 truck equipped with rear twin axle drives.

Some of the trucks are equipped with winches, one showing a winch and related equipment for pulling rods and tubing from shallow wells.

In addition to the special jobs, Ford Motor Company also shows its regular line of trucks, such as the closed cab tractor unit for trailer, and the long wheelbase truck with stake body, the closed cab "pick-up" for hotshot work.

A Ford coupe and the Tudor sedan are shown also.

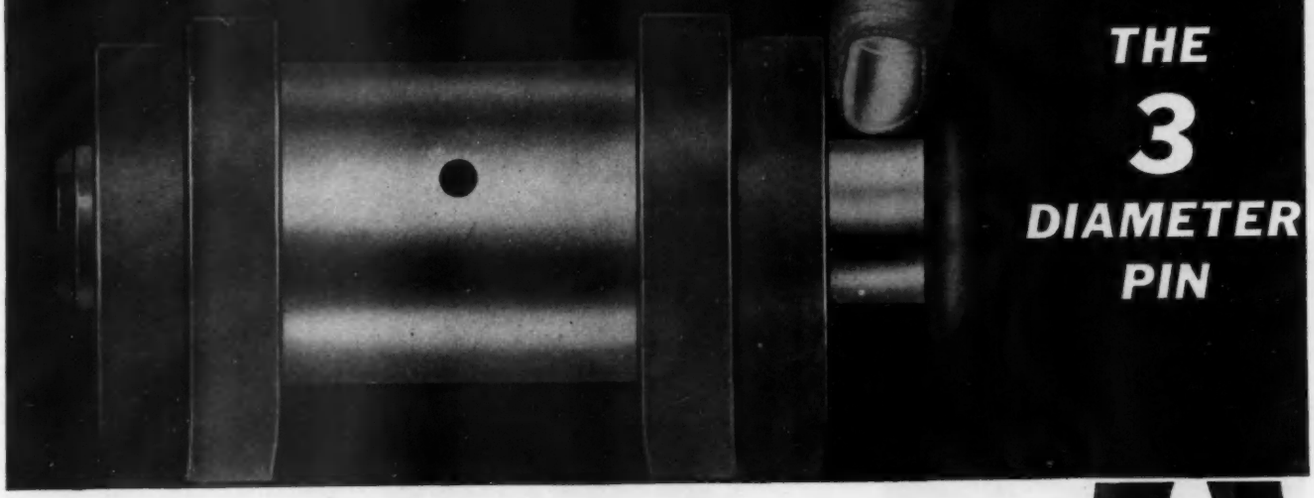
Hill and Foster Company

▪ *Spinning Equipment*

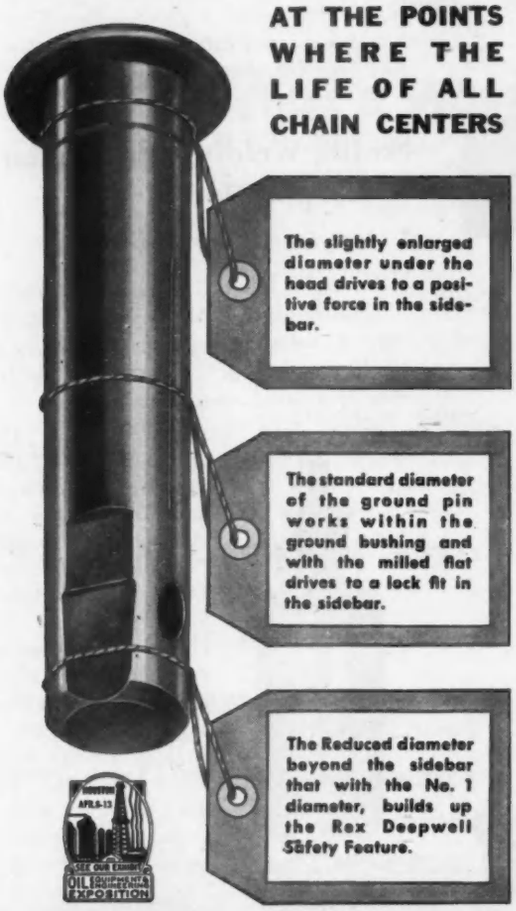
Hill and Foster Company of Wichita Falls, Texas, is displaying new spinning equipment for drilling rigs.

A new method of screwing tool joints together is the feature of this company's exhibit in booth 611. The features of this method are primarily safety to the workmen, speed of operation, economy of maintenance, and a longer life to the tool joint threads. The tool will be in operation at the exhibit along with the recently announced type "M Junior" Hill & Foster Automatic Cathead.

THAT'S ALL YOU DRIVE IT— GOING IN OR COMING OUT



THE 3 DIAMETER PIN



AT THE POINTS WHERE THE LIFE OF ALL CHAIN CENTERS

The slightly enlarged diameter under the head drives to a positive force in the sidebar.

The standard diameter of the ground pin works within the ground bushing and with the milled flat drives to a lock fit in the sidebar.

The Reduced diameter beyond the sidebar that with the No. 1 diameter, builds up the Rex Deepwell Safety Feature.

Just the width of the sidebar is all you drive the 3 Diameter Pin, going in or coming out on Rex Deepwell Chabelco.

Just that far to lock solidly in *BOTH SIDEBARS*—and in taking the chain down in the field you can do it without heavy battering of sledges and drift pins—and without the smashed hands that came when something slipped. It's patented—and you find it only on Rex Deepwell Chabelco—the greatest chain that ever hit the oil fields.

CHAIN BELT COMPANY

1639 W. Bruce St., Milwaukee, Wis. • Established 1891

Distributors

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Frick-Reid Supply Corporation
Lucey Products Corporation
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EXPORT

Chain Belt Company, Chrysler Bldg., New York
Lucey Export Corporation, Woolworth Bldg., New York
William E. Knight, 2-3 Norfolk Street, Strand
London, W. C. 2, England

CHAIN BELT COMPANY

REX 1030 D. W. 3—1240 D. W. 4 DEEPWELL

ALSO MANUFACTURERS OF REX CHABELCO 1033 • REX CHABELCO 1244

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

Link-Belt Company

Link-Belt Company, Chicago, Illinois, is exhibiting a full-size vibrating machine for reclaiming rotary mud and a complete line of rotary chains for every type of drilling service.

▪ *Mud Screen*

The Link-Belt vibrating screen is designed to reclaim, degas, and clean rotary mud that has been used for circulation. The screen is simple in construction and operation. It consists of

Link-Belt Vibrating Screen

an alloy steel fine mesh cloth carried in a screen box resting on two heavy springs of the leaf and roll type. The mechanism is supported on a combination steel framework and collecting tank. A high frequency motion is imparted to the box and deck by means of a rotating shaft mounted directly above and attached to the screen box.

▪ *Rotary Chain*

Included in Link-Belt's complete exhibit of rotary drilling chains are the "Hyper" two and three bar chains, the "Hyper" SS-40,. and the "Red Hed".

The "Red Hed" (A.P.I. 4) chain has an ultimate strength of 112,000 pounds; the "SS-40" (A.P.I. 3) has 48,000 pounds ultimate strength; "Hyper" two bar has an ultimate strength of 130,000 pounds; and the "Hyper" three bar chain an ultimate strength of 170,000 pounds.

"Hyper" chains feature side bars with the following characteristics: offset type with pin and bushing holes finished to precision limits and pinhead and lock integral with side bar. The rollers are smooth, resilient and shock absorbing and equipped with oil hole for lubrication. They are made of alloy, heat treated steel. Bushings are machined and case hardened, and are fitted in side bars under high pressure.

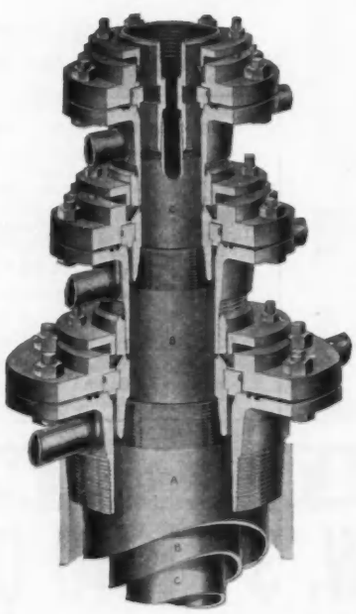
Link-Belt Rotary Chain

Rector Well Equipment Company, Inc.

▪ *Safety Bradenheads*

Rector Well Equipment Company, Inc., Ft. Worth, has on display the complete line of Rector safety bradenheads: the high-pressure head, 6000 pounds test, Type "M", 3000 pounds test, and Type "L", 1500 pound test. All these heads embody the split-ring suspension, permitting the operator to work his pipe while cementing, to repack completely under high pressure, and to get shut-off without putting men in the cellar. The design supports the casing as well as providing against any upward thrust. The heads have full opening bottom flange, avoiding any reduction in area. Rector heads are furnished either with standard or adapter gland, the latter built especially for use on top section of the assembly to enable the operator to stab over the gland in event of an emergency, such as a blowout. It blowout occurs due to break in upper connections, the Christmas-tree can be backed out and a valve or overshot stabbed over the smaller flow. Blowout preventer may be built up directly on bottom flange, and drilling operations carried on with the head in place.

Rector Bradenhead with Split Rings



Rector Bradenhead with Standard Glands

Smith Welding Equipment Corporation

▪ *Acetylene Generators*

Smith Welding Equipment Corporation, Minneapolis, Minnesota, is showing its Lifetime welding and cutting torches and Type "D" 15-pound portable acetylene generator.

When fully charged, Smith's 15-pound Type "D" automatic acetylene generator holds 17 gallons of water and 15 pounds of size 14 N. D. carbide. This generator is entirely automatic in operation. There is no over generation and the pressure is always uniform. It may be used as either a stationary or portable unit. It may be carried from place to place by two men, or it may be mounted on a truck, trailer or hand car.

Smith Type D Portable Acetylene Generator

This generator will deliver sufficient acetylene for average welding. It is a compact, economical and dependable unit. It occupies a floor space of 24 inches square and 50 inches in height.

PRODUCTS for pumping wells
The KEY to LOWER LIFTING COSTS
CORRECTLY DESIGNED .. ECONOMICALLY PRODUCED
REASONABLY PRICED

B-M-W NEILSON
Type C
SUCKER ROD
ELEVATORS

Made of Molybdenum Steel Bodies and Forged Steel Bails — made with interchangeable plates — easy to operate. Operating latch combines safety and convenience. Heavy Duty and Light sizes to meet your needs. At all good Supply Stores.

BRADFORD MOTOR WORKS INC.
OIL WELL SUPPLIES
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All Exner-Dodge Fittings are made from New Pipe— Seamless or Lap-Weld as Specified

Oil and Gas Well Packers
Swaged Nipples
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Special Fittings Made from Pipe
Sold By Supply Stores Everywhere

The EXNER-DODGE PACKER CO.
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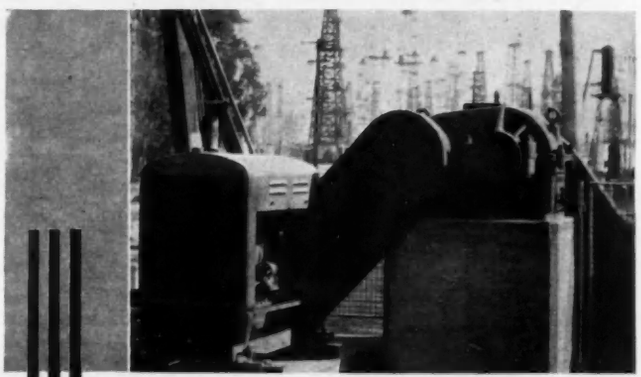
Gulf Coast Distributors
WELL EQUIPMENT CORP.
2023 SEMMES STREET
HOUSTON, TEXAS
See Our Material in Their Exhibit . . . Houston Oil Show.

DEPENDABILITY IN
OIL FIELD PUMPING

WAUKESHA XAH Engine, 4 cyl., 20 hp.-30 hp. and Jensen Straight Lift Jack, Graham, Texas, owned by A. T. Strong. Depth 3400 ft., 2 in. tubing, with 5/8 in. rods. Well is 30 miles from town and no natural gas is available. Well is pro-rated and pro-ration takes about 3 hours. Owner fills small tank with enough gasoline to run engine 3 hours and leaves lease. After gasoline runs out, engine automatically shuts down. Attendant does not return until next day.



WAUKESHA VKF, 4 cyl., 30 hp.-40 hp. Pumping Engine produces 383 bbls. per day from 3900 ft. well of Union Oil Co., Santa Fe Springs, California.

WAUKESHA XAH, 4 cyl., 20 hp.-30 hp. Pumping Engine, with Jensen pumping rig, Duval County Ranch Co. No. 6A, owned by the Texas Company.

Waukesha Engines, for all oil field applications, are made in sizes up to 300 hp.
Write for Bulletin 830.
NRA CODE
WAUKESHA MOTOR COMPANY
WAUKESHA, WISCONSIN
WAUKESHA ENGINES

Jenkins Bros.

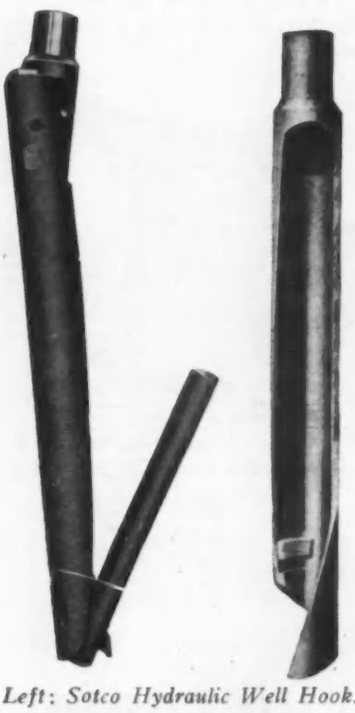
▪ ***Valves***

Jenkins Bros., New York City, is displaying bronze, iron and steel valves in a variety of types and patterns. Among these are Jenkins iron body bronze mounted double disc parallel seat gate valves with the unique seating arrangement that cannot stick. The Jenkins construction permits the discs, when the valve is being closed, to take the final closing position before pressure is exerted by the wedge-shaped spreaders against a crowned bearing surface on the backs of the disc. This means that the discs are forced perpendicularly against the seat rings in the body and eliminates rubbing, scraping or jamming between seat rings and discs. In a similar way, when the valve is being opened, the pressure exerted against the discs is entirely relieved before the discs start to leave the seat rings.

Stone Oil Tool Company

▪ ***Hydraulic Wall Hook***

Stone Oil Tool Company is exhibiting the Sotco hydraulic wall hook that is operated by hydraulic pressure. It is so designed that a heavy wall hook arm extends outward several feet at an angle of approximately 14 degrees. The six-inch hook has a circular sweep of 15 feet. The tool is so constructed that plain pipe, tool joints or collars are engaged in the hole, making it possible for the operator to recover the fish in this manner.



Left: *Sotco Hydraulic Well Hook.*
Right: *Sotco Plain Wall Hook.*

▪ ***Sotco Plain Wall Hook***

The Sotco plain wall hook has been designed to run in connection with the Sotco hydraulic knuckle joint, or dog-leg. When run in connection with the knuckle it operates and performs in the manner of the Sotco hydraulic wall hook. This tool is a positive releasing fishing tool, readily released or engaged at any time.

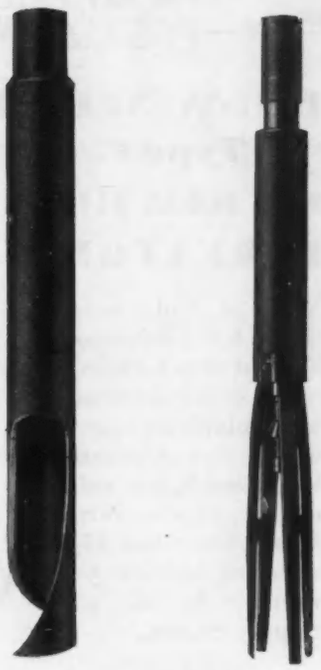
▪ ***Sotco Hydraulic Knuckle Joint***

Stone Oil Company also is displaying the Sotco hydraulic knuckle joint, which is a massively built tool, operated by hydraulic pressure. It is for attachment to any type fishing tool, such as a cutting tool, socket, wall hook, etc. It permits carrying circulation around the corner of the hole. Circulation may be maintained at all times, regardless of whether the tool is in the closed or full open position and assures circulation on through the tool used below. Sotco knuckles are built to withstand great strain and stress.

Sotco Hydraulic Knuckle Joint

▪ ***Sotco Combination Trip Packoff Overshot Slip Socket***

This tool has various features to take care of different conditions in the hole. It is equipped with a positive right hand release, a positive packoff that has withstood 4500 pounds pressure. The tool has a mill bottom for milling off ragged edges of the twist-off, a long spiral guide for straightening, a down jar for driving pipe down out of the tight place, enabling the operator to ream and thereby recover fish. It has a positive indicator to tell when the fish is engaged.



Left: *Slip Socket.*
Right: *Sotco Adjustable Grab.*

▪ ***Sotco Adjustable Grab***

The Stone Oil Tool Company exhibit also includes the Sotco adjustable grab, which is a non-dimensional tool. For instance, the 16-inch grab has an arm spread of 27 inches and will run inside of 18-inch casing and recover a 17-inch bit. This tool is entirely mechanical, operating by weight and rotation. It has been recommended and successful in recovering bits, drill pipe slips, rotary bushings, sledge hammers, etc., from the bottom of the hole and from wall formation.

The D. T. Williams Valve Company

▪ ***Valves and Specialties***

The D. T. Williams Valve Company, Cincinnati, exhibiting with Allen, Sproull & Allen, Houston, is showing its principle products consisting of bronze and iron gate valves, regrinding globe and check valves, stop cocks, water gauges, lubricators, oil and grease cups.

The company also is showing samples of recent editions to its line, which consists of iron body nickel alloy disc and seat valves for 250 pounds working pressure, also a bronze valve for 350 pounds working pressure, and an extra heavy type bronze gate for the same pressure.

RUGGED

Above—15½x7¼x20 GARDNER-DENVER DUPLEX STEAM PUMP *Right*—20x7¾x20 SIZE

Pumps That KEEP ON Taking It

All the way from the special alloy, high carbon piston rods to the tough heat-treated valves, Gardner-Denver Pumps are RUGGED. Divided fluid cylinder construction —a Gardner-Denver feature—eliminates all inner baffles and walls that could be cut through by mud. Let these pumps show you what they can do on YOUR job.

Steam Cylinder—Shop Tested 400 lbs. Steam Pressure.

•

Fluid End—Shop Tested 4000 lbs. Pressure.

•

Moly Alloy Fluid Cylinder For Severe Shocks and High Pressures.

•

Fluid Valves. Heat-Treated Alloy Steel—Dependable.

•

GARDNER-DENVER COMPANY
102 Williamson Street **Quincy, Illinois**

OIL COUNTRY OFFICES: • DALLAS, TEXAS • EL PASO, TEXAS • HOUSTON, TEXAS • KILGORE, TEXAS

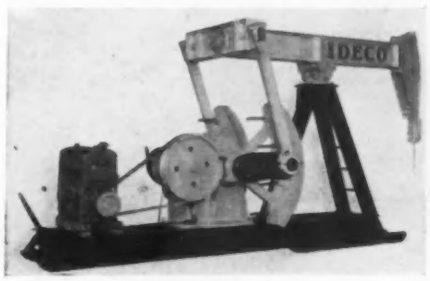
GARDNER-DENVER

The International Derrick & Equipment Co.

▪ *Geared Pumping Unit*

The International Derrick & Equipment Company of Columbus, Ohio, has on display one of the new series of "DT" (double reduction, twin crank) geared pumping units.

The geared unit and samson post are mounted on rugged all-welded steel skids of sufficient length to accommodate an electric motor or gas engine and of sufficient depth to clear the swing of the rotary type counter-balance. The gear box itself consists of a heavy gray iron gear case, an extra heavy forged alloy steel heat treated crank shaft mounted in bronze bushings, forged alloy steel heat treated pinion shafts mounted in roller bearings and a train of Sykes generated continuous tooth herringbone gears which are lapped in after cutting and before assembling into the unit.



Ideco Geared Pumping Unit

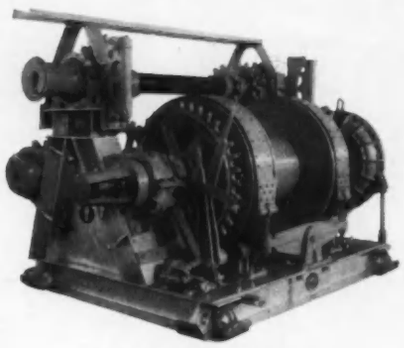
Among the outstanding features of this unit are the tripod samson post, the totally enclosed pivoted center irons which may be equipped with a retractor screw, if desired, a hinged type mule head with non-spinning wire rope cables (one working cable and a second cable to serve as an emergency hanger), polished rod grip, equalizer cross beam to insure equalized pitman load on the twin cranks, totally enclosed self-aligning wrist pin bearings, tapered wrist pins locked against rotation, rotary type counterbalances which may be removed quickly if it is desired to use the unit for servicing, combination brake and fly wheel and a desired set of universal motor or engine slide rails with adjusting screws.

All moving parts are provided with positive means of lubrication. All lubricated surfaces are totally enclosed to prevent loss of lubricant and to guard against the entrance of dirt or water. The gears run in an oil bath and a positive system of lubrication circulates oil continuously through every moving part.

Ideco pumping units in the new "DT" series are available in sizes ranging from 10 to 75 horsepower. These units may also be furnished with single cranks. A separate line of single reduction units for both twin crank and single crank service are also available.

▪ *Unitary Draw Works*

The Unitary draw works is capable of drilling wells 10,000 feet or deeper. It is a two-post, three-shaft, four-speed unit incorporating many new and improved features that make for increased speed of operation, safety and strength. The Unitary draw works is designed for mounting directly upon the derrick floor or concrete foundation. No headboard is required.



Unitary Draw Works

▪ *Crown Blocks*

Ideco-Boykin crown blocks are furnished in different types to meet all oil industry requirements. Sheaves are furnished in semi-steel, chrome nickel, Idecalloy or manganese steel for mounting on roller, removable bronze or babbitted bearings.

The straight-line crown block is designed for heavy duty rotary drilling service. The straight line feature assures perfect alignment with traveling block, swivel and drill stem. It provides even distribution of the load and permits high speeds. Large sheaves reduce bending stress in the lines. All sheaves have A.P.I. machined grooves.

Stream-Line Traveling Block

▪ *Traveling Blocks*

Ideco-Boykin traveling blocks are built in a variety of sizes to handle different classes of drilling service. These blocks are of the over-balanced type, being proportioned to prevent over turning and fouling of the lines when the block is lowered. They are equipped

Stream-Line Crown Block

WHITNEY

ROLLER CHAIN DRIVES

. . . . give dependable performance even under the most severe operating conditions. Their inbuilt quality is reflected in lasting and efficient service.

AT THE EXPOSITION SPACE 727

Represented By
O. H. HOLMAN
1613 Bryan St.
DALLAS, TEXAS

THE WHITNEY MFG. CO.
HARTFORD, CONN. U.S.A.

LAY·SET *Preformed*

whips the "wildcats"

● The following is a Western Union telegram received from Houston, March 21st:

"Many companies always careful to specify Lay-Set Preformed Rotary Lines for all wildcat or deep test operations where conditions are uncertain. Stop. One company, drilling in Iowa field in Louisiana, used the same Lay-Set Preformed line to make 5600 feet with 6-inch pipe and 7400 feet with 4-inch pipe, then made 5500 feet on second well."

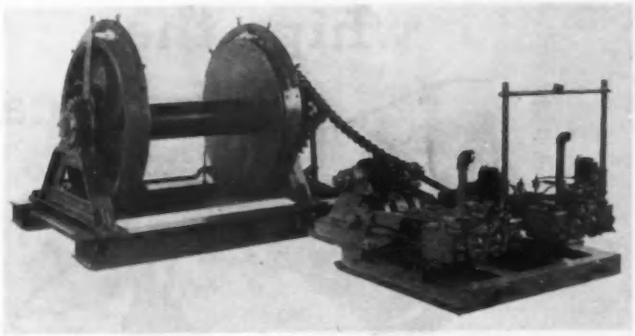
The frequency and the similarity of service reports on Lay-Set Preformed Rotary Lines proves that here is the one line that can tame the wildcats. Lay-Set Preformed is the rotary line that will consistently give more ton-miles of service. Send for literature. Learn *why* Lay-Set Preformed Rotary Lines are preferred wherever dependability of performance is an absolute necessity. Write today.

HAZARD WIRE ROPE COMPANY, Inc.
Wilkes-Barre, Pennsylvania
An Associate Company of American Chain Company, Inc.
In Business for Your Safety
District Offices: New York, Chicago, Philadelphia, Fort Worth, San Francisco, Pittsburgh, Denver, Los Angeles, Birmingham, Tacoma

NRA CODE ACCO

LAY·SET *Preformed* ROTARY LINES

EQUIPMENT Featured at Oil Equipment & Engineering Exposition



Ideco-Boykin Wire Line Reel

with extra large diameter sheaves to reduce the bending stress in the lines. The sheaves are available in chrome nickel, Idecalloy or manganese steel. They are mounted on heavy-duty straight roller bearings. Each bearing is individually lubricated by Alemite. Sheaves and bearings are interchangeable with sheaves and bearings in straight-line crown blocks.

▪ *Wire Line Reel*

The Ideco-Boykin wire line reel is equipped with a spooling drum 10¾ inches by 42 inches in length and 48-inch diameter flanges. The reel has a capacity of 15,600 feet of ⅝-inch wire line or 10,800 feet of ¾-inch wire line. Each brake drum is equipped with a brake band lined with ¾-inch by six-inch woven asbestos lining. The entire assembly is mounted on cast iron pedestals and steel skids.

Templeton, Kenly & Company

▪ *Simplex Jacks*

Templeton, Kenly & Company, Chicago, Illinois, displays all types of Simplex jacks suitable for oil field and refinery use. The exhibit consists of automatic lowering and raising jacks, push and pull jacks, ball-bearing screw jacks, and the No. 310 emergency jack.

There is a shadow box in the booth with a jack cut open so that the parts are shown in action. It is operated by a small motor.

Simplex No. 310 Emergency Jack

Oil Equipment Sales Corporation

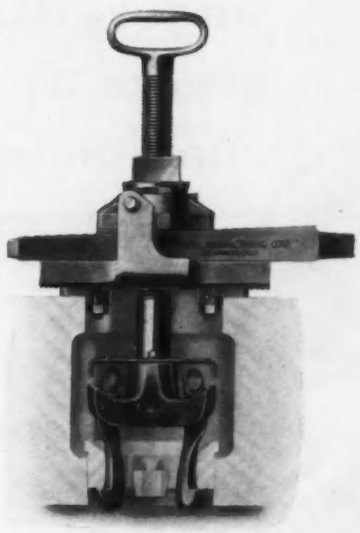
▪ *Red Devil Slush Pump Valve*

Oil Equipment Sales Corporation, Houston, is showing the Red Devil slush pump valve manufactured by Oil Well Manufacturing Company. This is a new type valve with its top and bottom guides drop forged in one piece, and features a spring lock washer that firmly clamps the rubber insert and valve plate in place yet the valve can be easily assembled or dissassembled without the use of complicated pins, nuts, etc. This simplicity of design is characteristic of the Red Devil slush pump valve.

Red Devil Slush Pump Valve

▪ *Red Devil Universal Valve Seat Puller*

Also on display is the Red Devil universal type valve seat puller for slush pumps. This valve seat puller is adjustable to the different sizes of pumps and all parts subject to the most severe strain are drop forged of special alloy steel and heat treated. The rugged construction and adaptability of this new puller increases its usefulness many times over that of the ordinary puller.



Red Devil Universal Valve Seat Puller

▪ *Thrift Hydraulic Casing Pulling Machine*

Featured in the Oil Equipment Sales display is the new eight cylinder hydraulic casing pulling machine, set up in the exhibition hall to pull casing. This outfit consists of an eight cylinder hydraulic pump powered with a Ford V-8 Motor. The pump forces fluid through a manifold line to the telescopic jacks which handle the pipe. This machine will be demonstrated and explained at regular intervals during the entire length of the exhibition.

ALL-ALLOY AND ALL HEAVY-DUTY

Chrome Molybdenum alloy hook and heel jaws, heel jaw replaceable.

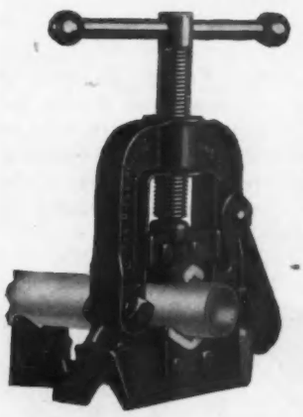
Super-X Alloy handle and housing — double strength.

RIDGID No. 65R THREADER

Threads 1″ to 2″ pipe with *one set* of chasers. Many other improvements. There are now 9 different RIDGID threaders all with special advantages.

RIDGID PIPE CUTTERS

Made with reinforced unbreakable housing and special thin tool steel cutter blade that gives far more quick clean cuts. Four sizes ⅛″ to 2″. Also new RIDGID Tubing Cutter.



RIDGID PIPE VISES

Made in yoke and chain patterns. Conventional in design but have unusual special features. All types have pipe rests and pipe benders. No-mar jaws in 2″ and 2½″ sizes. Frames of strong special malleable metal. Jaws of highest quality tool steel, hardened for firm grip and long wear.

THIS tough brute of a pipe wrench has proved — to the tune of millions of RIDGID's — not only that it's the slickest working tool you ever slapped on a pipe but that it stands terrific abuse without a flicker.

Use it straight or crooked, side twist it or what you want—it takes it cheerfully, housing and all.

What other wrench gives you these? An unbreakable housing; instant grip and let-go, no locking on pipe, no slipping; full-floating balanced hook-jaw with handy pipe scale; adjusting nut in open housing *always* spins easily in all sizes, 6″ to 60″.

Trust a RIDGID—for easy work and absolute safety.

Ask your Supply Store.

THE RIDGE TOOL CO.

Elyria, Ohio, U. S. A.

RIDGID PIPE TOOLS

Beaver Pipe Tools, Incorporated

Beaver Pipe Tools, Incorporated, Warren, Ohio, exhibits a complete line of pipe cutting and threading tools.

▪ *Pipe Machine*

One of the features of the exhibit is the Model A Beaver pipe machine for one half to two inch pipe, but capable of handling pipe as large as 12 inches when used with geared tools. The machine features three quick opening die heads; a cut-off device consisting of spring fed cutters with a safety device to prevent hogging and knife breakage, and an alloy steel cone reamer.

Modal A Beaver Pipe Machine

▪ *One-Piece Threading Tool*

No. 6-R Beaverette ratchet on display is labelled as the only one-piece tool threading from quarter to three-quarter inch pipe. It is for use in ditches, corners, and close places, and designed to handle ¼-inch, ⅜-inch, ½ inch and ¾-inch pipe without changing dies or bushings.

6-R Beaverette Ratchet

▪ *Wheel Cutters*

Beaver has several wheel cutters on display and features No. 102, one or three wheels, capable of handling one-eighth to 2-inch pipe. All parts are at right angles to others, giving it the name of "square built." The body is made of malleable iron, with cutters available in accordance with the kind of pipe to be cut.

▪ *Sawing Vise*

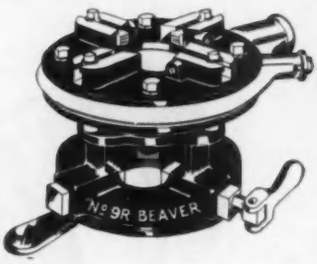
This sawing vise employs the square end feature. In the Model 4 on exhibition pipe ranging from 1½ to four inches can be taken care of. It is claimed the vise will not mar tubing. It is made with renewable steel inserts.

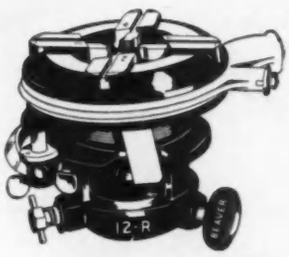
Beaver Sawing Vise

▪ *Ratchets*

Two types of ratchets are shown. The first is a semiself-contained, semi-adjustable with four sets of dies, no bushings, plain or ratchet type handling from one to two inch pipe. The second type is fully self-contained, adjustable, with one set of dies, no bushings, and has the same pipe capacities.

The ratchet heads incorporate a straight line pull with dies on top. Two types of work holders are available: grooved bolt and washer, or Universal chuck. Die segments are interchangeable. Models 8-R, 9-R, 12-R, and 13-R are for right hand use only, and can be had in one handle or two handle designs.



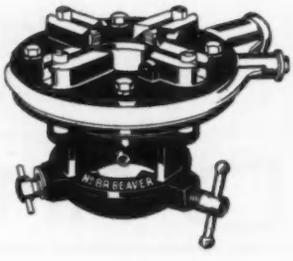


The model 38-R on display is available for 2½ and three inch pipe, standard thread (eight thread); or for 11½ thread, two, 2½ and three inch pipe, such as oil well tubing. It has a straight line pull and a separate set of dies for each size pipe. Die segments are interchangeable and the tool has a patented grooved bolt centering device.

▪ *Cutter*

Beaver cutter No. 104 is made to handle pipe ranging from 2½ to four inches in diameter. Gears are fully enclosed and packed in grease. Housing is of nickel steel. The tool has a Universal two jaw chuck and requires no special wrenches.

Model 102 Wheel Cutter



Beaver 38-R

No. 104 Cutter

FRICK-REID QUALITY PRODUCTS

•

AXELSON
Sucker Rods—Working Barrels

•

BEAUMONT IRON WORKS COMPANY
Rotary and Pumping Equipment

•

BLAW-KNOX COMPANY
Gas Cleaners—Steel Grating
Tracyfiers

•

DONOVAN BOILER WORKS
Oil Country Boilers

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Packing for all needs

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RAYBESTOS-MANHATTAN, INC.
Raybestos Rotary Brake Lining

•

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Gas and Diesel Engines
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•

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Any FRICK-REID representative is prepared to take care of your requirements promptly and intelligently.

FRICK-REID SUPPLY CORPORATION

Pittsburgh, Pa. — **Tulsa, Okla.**

Gray Tool Company

▪ *Gray Type B Swivel*

Gray Tool Company, Houston, is displaying its Gray type B swivel, which has a capacity of 422,000 pounds at 100 revolutions per minute. This swivel possesses the original feature of carrying the load from the foundation, preventing distortion or pulling together and consequent misalignment, thus obviating packing trouble. The manufacturer states the swivel has strength far beyond the point where the drill pipe will hang together and strength beyond that required for the higher speeds practiced in straight hole drilling.

▪ *Boll Weevil Tubing Heads*

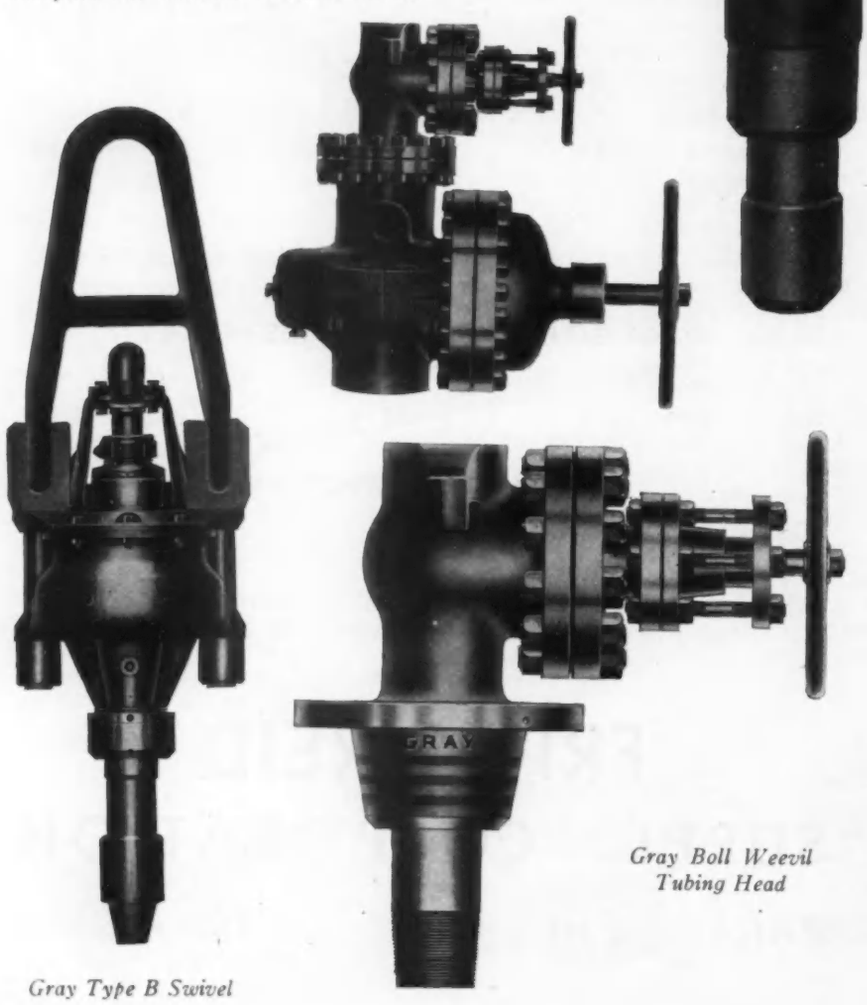
All Gray tubing heads employ the Boll Weevil principle, whereby with one connection the boll weevil may be lowered into position, placing both casing and tubing outlets under control with one operation. The tubing head top (boll weevil) screws directly into the tubing collar, up on the tubing string, eliminating breaking off collars and running a full joint into the derrick before connection to the head can be made. The weight of the tubing pulls the tapered packing joint into place, assuring a perfect seal. This system of blowout prevention may be used while drilling or tubing a well.

▪ *Gray-Kerotest Universal Master Control*

The Gray-Kerotest universal master control employs the Boll Weevil principle and is interchangeable with the tubing head described previously. It permits simultaneous and independent control of casing and tubing outlets, permitting repairs to any part of the tree. Another feature is that it has a master closure below all outlets with tubing in the hole. It serves as a blowout preventer while running tubing in hole or stripping out under pressure. It is placed on well during cementing time and remains the tubing control mechanism throughout the entire sequence of operations to completion.

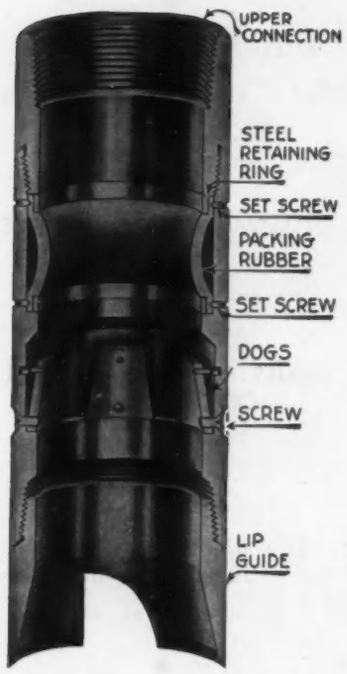
Right: Gray Packer Type Release Spear.

Below: Gray-Kerotest Universal Master Control.



Gray Type B Swivel

Gray Boll Weevil Tubing Head



Gray Overshot

It is made of manganese Molybdenum heat-treated alloy steel.

▪ *Gray Overshot*

The Gray Overshot is claimed to be a safe efficient tool that is positively releasable. It is designed not only to do its work well but to eliminate hazards in case of the running of subsequent tools should be necessary.

▪ *Gray Packer Type Release Spear*

In addition to embodying features found in the Gray release spear this tool provides a simple means for packing between the tool and the inside wall of the fish, allowing circulation to be forced to the bottom of and around a stuck string.

The circulation statement of The Oil Weekly for the six months period ending December 31, 1934, again showed that The Oil Weekly leads all oil publications in production-pipe line subscribers. The margin of leadership is so wide as to leave little comparison—the result of a well planned editorial content.

EQUIPMENT Featured at Oil Equipment & Engineering Exposition

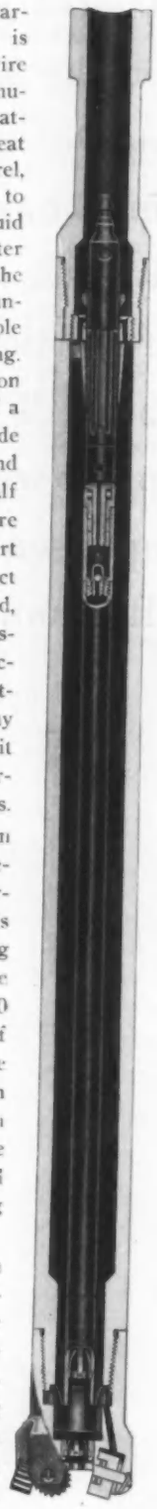
The Universal Core Barrel Company

▪ ***Wire Line Core Barrel***

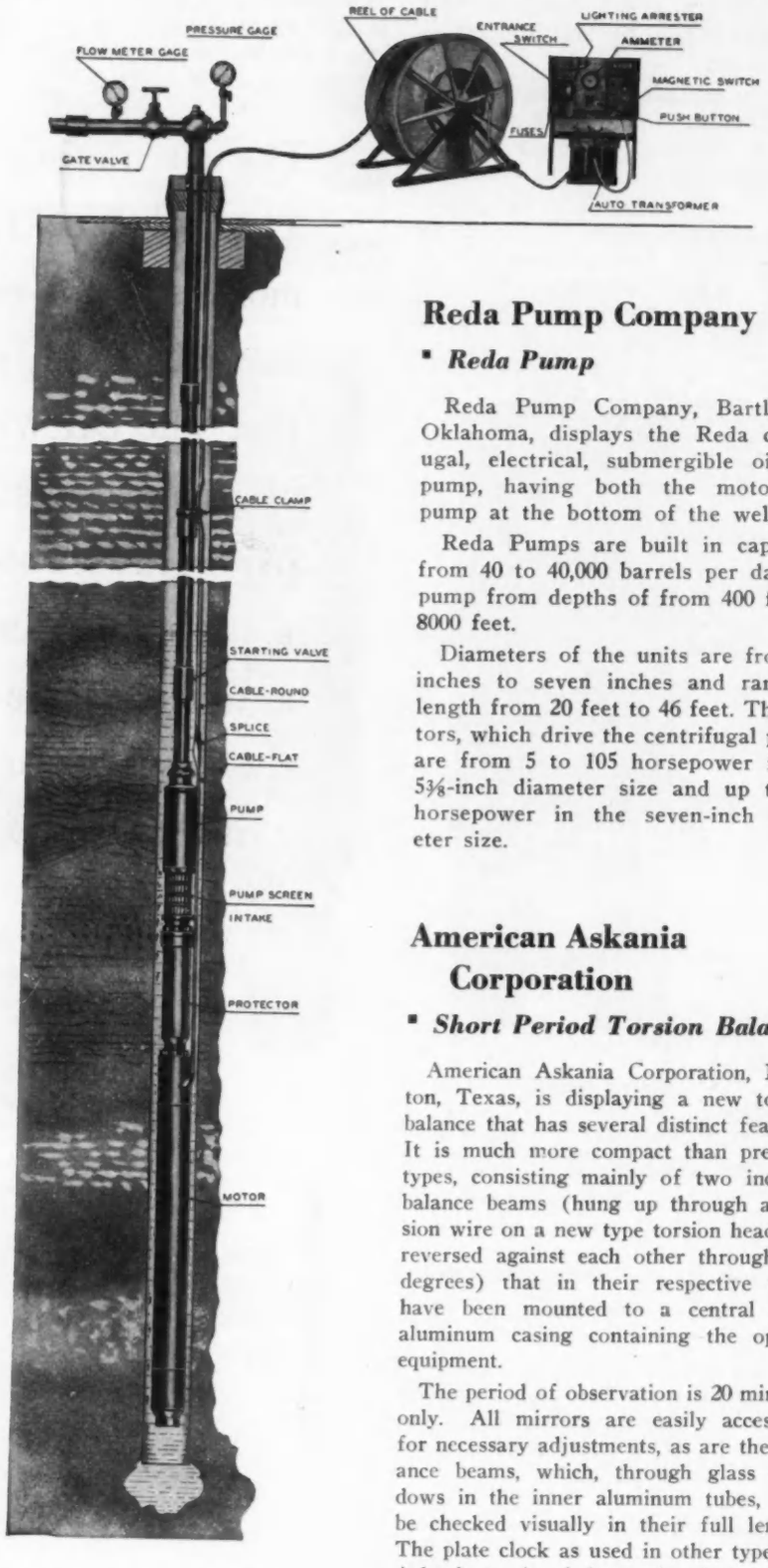
The Universal Core Barrel Company, Houston, is showing its patented wire line core barrel. The manufacturers call particular attention to the inside seat construction of this barrel, which makes it possible to control the slush pump fluid through the regular water courses to the blade of the bit, which insures an uncontaminated core sample and speeding up drilling. The inside seat construction also permits the taking of a core as large as the inside diameter of the pipe and tool joints, less one half inch. By having the core cutter head an integral part of the drilling bit, correct core lubrication is provided, which eliminates the necessity of pulling pipe on account of swelled core cutter heads. The company provides a regular rock bit formation head for the coring of rock bit formations.

Though the introduction of a ball-bearing swivel below the driver, the Universal wire line core barrel is a full-floating, non-rotating barrel, making possible the taking of cores up to 10 feet in length. By use of double core retainers, the barrel is equipped with both a hard and soft formation core catcher. A positive and rigid lock is obtained by the use of a two-dog locking device.

The inside construction of the core barrel is tapered, increasing diameter from receiving end to the top of the barrel, which reduces jamming and burning of cores. For drilling where the job is alternate coring and drilling, a plug bit with positive circulation through it, makes possible greater drilling speeds.



Universal Wire Line Core Barrel



Reda Electrical Submergible Oil Well Pump

Reda Pump Company

▪ ***Reda Pump***

Reda Pump Company, Bartlesville, Oklahoma, displays the Reda centrifugal, electrical, submergible oil well pump, having both the motor and pump at the bottom of the well.

Reda Pumps are built in capacities from 40 to 40,000 barrels per day and pump from depths of from 400 feet to 8000 feet.

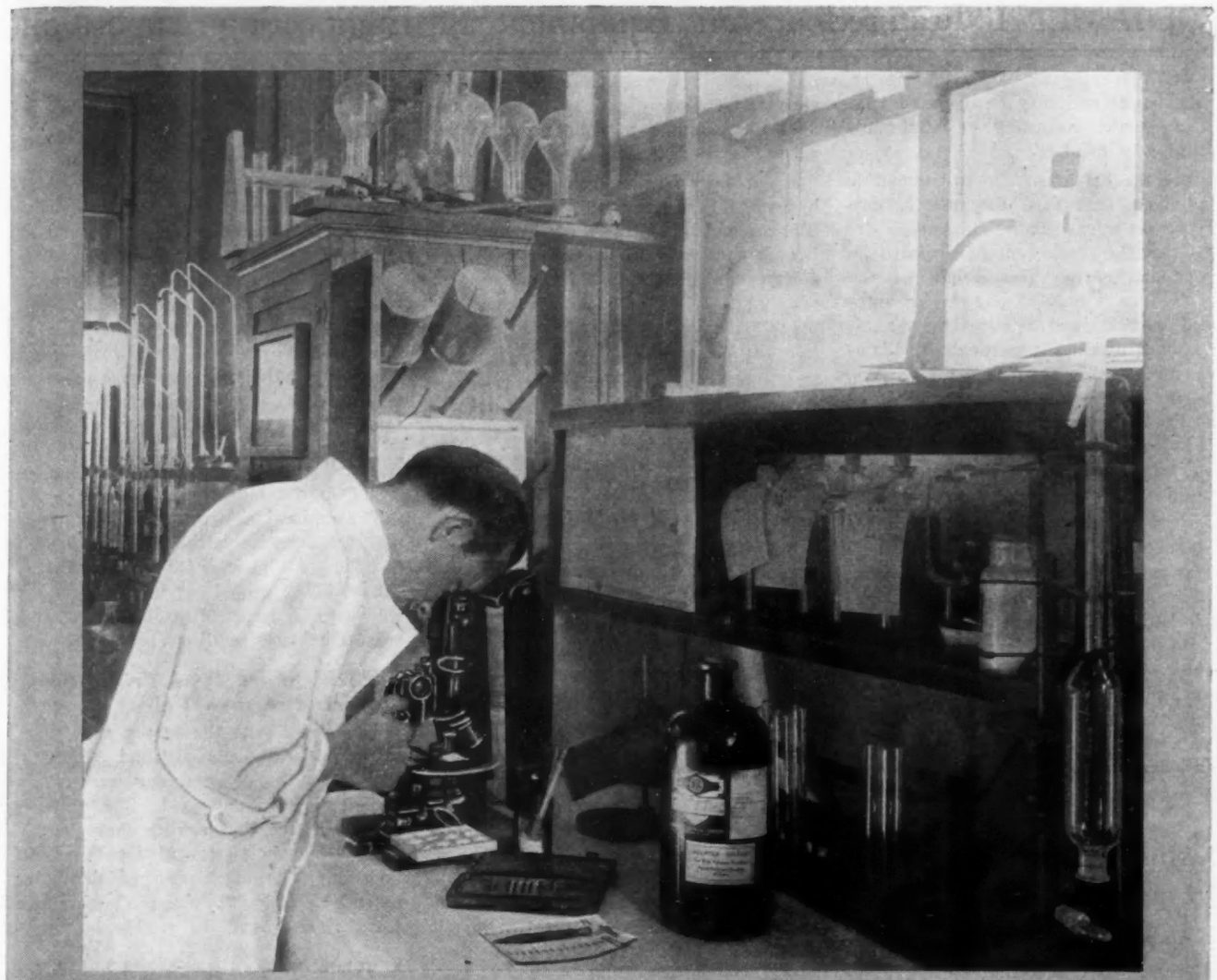
Diameters of the units are from 4.5 inches to seven inches and range in length from 20 feet to 46 feet. The motors, which drive the centrifugal pumps are from 5 to 105 horsepower in the 5⅜-inch diameter size and up to 250 horsepower in the seven-inch diameter size.

American Askania Corporation

▪ ***Short Period Torsion Balance***

American Askania Corporation, Houston, Texas, is displaying a new torsion balance that has several distinct features. It is much more compact than previous types, consisting mainly of two inclined balance beams (hung up through a torsion wire on a new type torsion head and reversed against each other through 180 degrees) that in their respective tubes have been mounted to a central cast-aluminum casing containing the optical equipment.

The period of observation is 20 minutes only. All mirrors are easily accessible for necessary adjustments, as are the balance beams, which, through glass windows in the inner aluminum tubes, may be checked visually in their full length. The plate clock as used in other types of Askania torsion balances has been eliminated, the displacement of the dots on the photographic plate being possible through rotatable mirrors coupled with the rotation of the instrument. The new balance fits on a new type clock section and standard bell-shaped base of Askania tor-



How Microscopic Sediment Control protects these Fuel Oils

YOU might call a Shell testing laboratory a clinic . . . so *carefully*, so *precisely* are all Shell products tested before they are sold.

Take the case of heavy industrial and bunker fuels, for example.

One would hardly expect them to be subjected to tests employing the specialized methods of the medical laboratory.

Nevertheless, this is just what Shell technologists have done. Not being satisfied that the conventional methods of determining the sediment content of these heavy industrial fuels were in all cases adequate for protecting Shell's highest possible standards of quality, they developed a special technique for their microscopic examination.

• • •

Work of this nature typifies Shell's well-established policy of going beyond routine standard tests and specifications to assure uniformly high-quality products for all current market demands.

Nine strategically located Shell Refineries: Arkansas City, Kan.; Coalinga, Cal.; Dominguez, Calif.; East Chicago, Ind.; Houston, Texas; Martinez, Calif.; Norco, La.; Wilmington, Calif.; Wood River, Ill.

SHELL PETROLEUM PRODUCTS

sion balances and may be operated with full automatic recording or semi-automatically by hand.

Since the height of the instrument is only about four feet, the new balance may be set up in small field huts if desired that the instrument be operated by a one-man party. The weight of the new balance is only 85 pounds for automatic operation and 55 pounds for semi-automatic, making it particularly adaptable for use by one-man parties. The economy of the instrument may best be visualized if one realizes that one station can be covered in one hour and 20 minutes, with four dots on the plate (three azimuths and one check.)

Successful surveys have been made with several instruments of the new type in various parts of Texas and Louisiana, and frequent checks of the new balance against the well known Askania Z-type torsion balance have furnished excellent results. The frequent objection to short period torsion balances that they are too insensitive to do accurate work therefore does not hold with this new Askania torsion balance with slanting balance beams, states the manufacturer.

Darling Valve & Manufacturing Company

▪ *Valves*

Darling Valve & Manufacturing Company of Williamsport, Penna., is exhibiting a complete line of gate valves for producing, transporting and refinery service which includes an improved design of cast steel valve, forged steel double disc well control and flow line gate valves, Darval semi-steel pipe line gate and swing check valves.

Some of the valves are cut away and mounted on pedestals to permit ready inspection of all working parts.

An electrical operating unit with push button control is mounted on one of the cast steel cut away gate valves and permits the operator to open or close the valve from a distance.

Darling Drilling Gate Valve

A cut away Darling high-pressure fire hydrant for refinery and industrial fire service, and an exhibit of Darling all Bronze gate valves and Darling balls and seats is also shown.

In addition to the line of Valves and Hydrants displayed Darling is also showing its line of Darcova, Darval and Darflex valve cups which it has been manufacturing for over 30 years.

Texas Iron Works

▪ *T. I. W. Full Hole Bit*

Texas Iron Works, Houston, is exhibiting its T-I-W full hole bit, which has a full hole drilled through the shank, eliminating pump pressure turbulence cutting the bit shank and drill collar. The manufacturer claims it does not require much weight to drill, which makes for straight hole.

▪ *Lang Detachable Blade Bit*

The T-I-W Lang detachable blade bit cutting edge is of curved design, made possible because the blades are cast. The blade slips into the head on a double taper. The surface of the blade that is inserted in the head is tapered so that it seats securely, and the side taper keeps blade from shifting sideways. The tapered head of the locking bolt seats in tapered hole in the bit blade, where it is held securely by tightening a large nut against a high tension coil spring. This spring keeps the tapered head of the locking bolt securely seated in tapered hole of bit, thus compensating for any wear from vibration. A high-tension lock washer is inserted against the lock bolt tapered head, and a large nut screwed securely against the washer, which doubly secures the locking of the blade. The water courses lead only through the bit head, but are so constructed they terminate close to the cutting edges. The water courses have inexpensive hardened tubular liners and can be removed easily.

▪ *T-I-W Combination Pilot, Drilling and Reaming Bit*

This bit may be used as a pilot bit when reducing the hole, and the reduced hole is always in center of the large hole. It can also be used as a reaming bit. The pilot guides bit to center of reduced and reamed hole is uniform around reduced hole. It may also be used as a straight hole bit, as a drilling bit and as a bit for drilling hard formations.

▪ *T-I-W Packer and Setting or Letting-In Tool*

This tool is used for sealing liner to casing where liner rests on bottom of hole and top terminates in bottom of casing; to keep sand, shale, or formation from heaving up outside of liner into casing; to keep gas from escaping up outside of liner; to eliminate setting a full string of pipe; as a bottom-hole plug inside screen or perforated to cut off water or sand leaking through back-pressure valve; and to cut off water between two sands.

▪ *T-I-W Triple Seal Back Pressure Valve*

The entire inside of the T-I-W triple seal back pressure valve is made of bronze and the guide plug of cast iron, so that it can be easily drilled out in the event the well is to be deepened through liner. This valve eliminates sanding up.

▪ *T-I-W Short Type Triple Seal Back Pressure Valve*

This valve puts the screen very close to the bottom of the well and is ideal in shallow sands. It eliminates unnecessary blanking off of pay sand. The valve is so constructed that a very short length, nine inches, is only used for the valve housing. The mechanism of the valve extends up inside the screen allowing area for a flow around the mechanism.

▪ *T-I-W Screen Setting Assemblies*

With T-I-W screen setting assemblies hold down slips are optional with the user, and they may be used with regular type back-pressure valve or with triple seal back pressure valve. A patented flow-back valve is used only in wash pipe when setting screen with tubing and setting tubing on ground seat at top of packer. The flow-back valve is closed while washing well, returns going through wash pipe and back-pressure valve, but when the wells come in, flow comes through screen through flow-back valve to inside of wash pipe and up through tubing.

▪ *T-I-W Friction Three-Piece Reliner Type Slips*

These slips are a three-piece unit that keeps the segments in alignment and obviates one segment getting out of alignment and crushing pipe. The three segments make a three-point bearing on the circumference of the rotary bowl, making same self-centering and giving a uniform bearing area on the pipe. The slips have a bearing area against the pipe of 13¼ inches lengthwise and almost 100 per cent of the circumference. The handles are convenient to grip and are long

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because they have had to face the same problems themselves, and to solve them by the manufacture of petroleum products which would stand up in actual use in the field. So we recommend Humble Products to you with confidence that you'll like them. Try them, test them—you'll come back for more.

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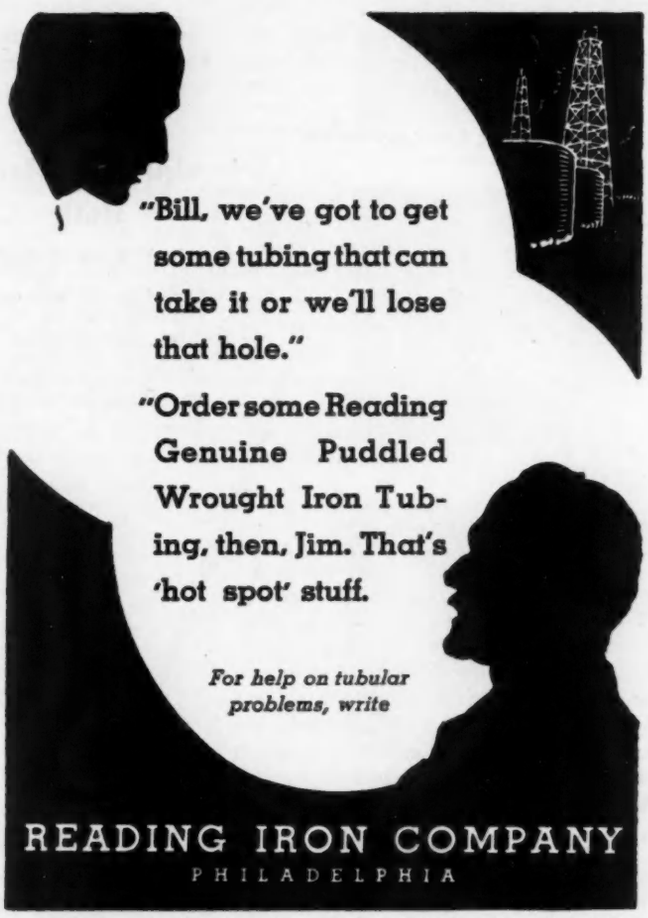
Service goes with everything we sell


"Bill, we've got to get some tubing that can take it or we'll lose that hole."
"Order some Reading Genuine Puddled Wrought Iron Tubing, then, Jim. That's 'hot spot' stuff.
For help on tubular problems, write
READING IRON COMPANY
PHILADELPHIA

SCIENCE AND INVENTION HAVE NEVER FOUND A SATISFACTORY SUBSTITUTE FOR GENUINE PUDDLED WROUGHT IRON

enough to clear elevators, and curved to clear top of rotary, eliminating any danger of injury to operators' hands. They are so constructed they will not drop through rotary bowl and are easy to handle.

▪ *T-I-W Friction Two-Piece Reliner Type Slips*

The company also is showing T-I-W friction two-piece reliner type slips, the unique design of which prevents slips from folding together and dropping through rotary bowl. These slips also are made in tubing sizes with hinged bowl.

▪ *Liners for Reliner Type Slips*

Texas Iron Works liners can be resharpened or when completely worn out new liners may be installed in reliner type slips. Liners for different sizes of pipe can be used in the same slip, thus saving the operator from having to buy different slips for different size pipes.

▪ *T-I-W Tubing Slips and Spiders*

T-I-W tubing slips and spider may be used at any place where necessary to run a string of tubing. They are designed with a small degree of taper, thus greatly increasing the holding capacity. A releasing feature insures against biting and crushing the pipe. They are made in three segments, like the reliner type slips.

▪ *T-I-W Pump Compounding Valve*

This valve is in one unit and saves time in rigging up or disassembling pumps. It also can be operated in compound or single stage, and may be changed quickly over where time is a factor in combating high-pressure gas or obtaining circulation in stuck drill stem. Connection to pump is stuffing box type, which acts as swing when raising or lowering suction. The valve is manufactured of the highest quality alloy steels carefully machined.

▪ *T-I-W Wrist Pin*

The T-I-W improved wrist pin is for use in drilling and pumping rigs. A T-I-W wrist pin will go into a crank where it is worn not more than one eighth inch. There is no driving to put pin in and out of hole, simply place tapered bushing in crank arm and insert wrist pin in bushing and tighten the nut, which draws tapered pin shank into tapered bushing.

▪ *T-I-W Rod Line Weight*

The rod line weight is used where draw works, tubing hoist, or portable winch is used in pulling rods and weight is used to bring line down. It weighs about 300 pounds and is 28 inches over all and tested up to 20,000 pounds. It is made of 2¼-inch hammered shaft with cast iron ball 11½ inches in diameter cast on it. One end is machined to receive becket and bearing; the other end with forged steel hook, ball thrust bearing which is oil bath, and so assembled in becket that sand and dirt cannot get to bearings and deteriorate them.

▪ *T-I-W Drill Stem Safety Valves*

These valves are used when high pressure gas is encountered. These valves prevent blowing out of the well through the drill stem. The top and bottom connections can be furnished with either tool joint or pipe threads. The screw type valve is opened as the joint above valve is screwed on, and closed as the joint is unscrewed. The plug type valve is opened and closed by means of a wrench.

▪ *T-I-W Safety Joint*

The T-I-W safety joint is designed so that it will not back off going into the hole, yet will break out on left rotation. The manufacturer recommends that it be run above shale drilling assemblies, all fishing tools, cutting tools, lace joints, reamers and roller bits.

Alphonso Mechanical Boiler Cleaner Company

▪ *Boiler Cleaner*

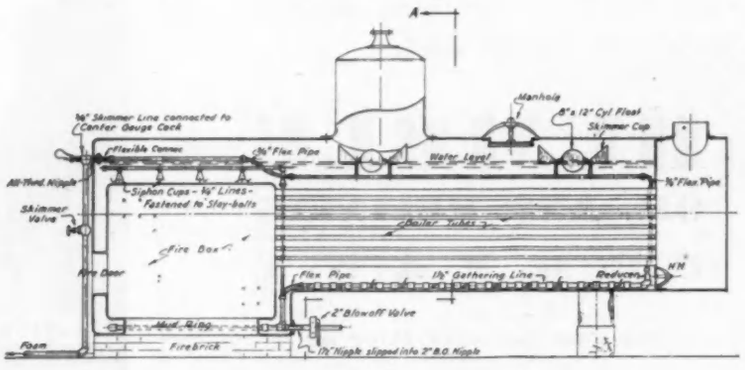
The Alphonso mechanical boiler cleaner, on display by Alphonso Mechanical Boiler Cleaner Company, Houston, is composed of three parts, which are the gathering line, syphon line and skimmer. These are placed in such positions in the boiler where water deposits collect. The materials used are black pipe, sheet steel, cast iron and flexible steel conduit. The unit is operated by the internal steam pressure in the boiler. All scum and sediment discharged through blowoffs must pass through the unit. Unit connections are through regular opening of boiler.

The manufacturers state the unit will prevent formation of new scale by removing the impurities from the water before scale has a chance to form and that it eliminates foaming and priming due to the removing of all floating water impurities. The gathering line and syphon line removes all sediment deposits collecting at the bottom of barrel and mud ring. Due to the elimination of new scale formation, old scale will check and drop and be carried off.

Red-Rex Corporation

▪ *Red-Rex Pipe Unions*

Red-Rex Corporation Houston, is displaying the Red-Rex pipe unions, which embodies a new principle. Features of the union include their quickness and easiness to put on or take off. It is only necessary to turn the bolt. Automatically equalized pressure makes for safety against strains because of the use of taper principle. Taper on contact closes surfaces of hubs and clamps. The removable seal ring is made fast in recess of one hub. Open spaces control expansion and contraction. Extra long hubs afford ample space for chain tongs. These unions are tested for high pressure and are made in malleable styles for 6000 pounds and in steel for 8000 pounds.

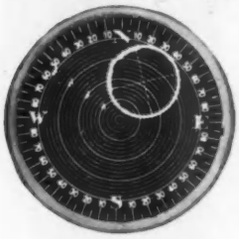


Alphonso Mechanical Boiler Cleaner Installation

Straighten Out... those
CROOKED Holes
with
SPERRY - SUN
Well-Surveying Instruments

One Kept Straight with the
H - K
(Hewitt) (Kuster)
Clinograph

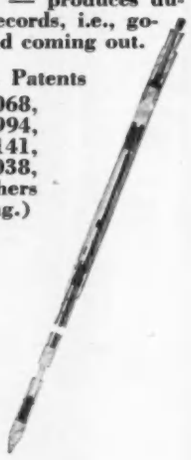
Introduces a radical improvement and exclusive method of recording in single readings both the amount and the direction of inclination, utilizing the triangular suspended cross hair plumb bob and floating compass principles with automatically operated photograph camera. The H-K Clinograph (designed for open holes only) is lowered on a sand or bailing line at a speed ranging from 400 to 800 feet per minute. Permanent, accurate records on paper discs are available within five minutes after removing instrument from hole.
(U. S. Patent 1,812,994 and others pending.)



One Kept Straight with the
SURWEL
Clinograph

The most accurate and practical method ever devised for measuring the degree and direction of deviation. The SURWEL is a gyroscopic Clinograph which provides a true map of the well at all depths, prepared from actual photographic records. Not affected by *Tortuosity* nor by *Magnetic Influence* when recording. Self-checking — produces duplicate records, i.e., going in and coming out.

(U. S. Patents 1,124,068, 1,812,994, 1,959,141, 1,960,038, and others pending.)



One Kept Straight with the
SYFO
Clinograph

Daily use of the SYFO Clinograph permits accurate control of inclination in drilling operations. These tests are accurately and easily made *without* the use of dangerous acids. The SYFO can be used on a wire line or as a "Go-Devil" running inside the drill stem or on sand or bailing line in open hole. It affords a quick, inexpensive daily record on paper of vertical deviation in drilling—records for permanent filing.

(U. S. Patent 1,962,634 and others pending.)

Setting watches for an H-K Clinograph instrument.

Reading the photograph story just told by a SURWEL run.

Tightening up on SYFO case preparatory to lowering into hole.

SPERRY-SUN WELL SURVEYING COMPANY

1608 Walnut Street, Philadelphia, Pa.

TULSA, OKLAHOMA
425 Petroleum Building

HOUSTON, TEXAS
3118 Blodgett Avenue

LONG BEACH, CALIF.
549 E. Bixby Rd (N.W. Cor. Atlantic Ave.)

J. H. McEvoy & Company

▪ *McEvoy Improved Wireless Well Strainer*

The principles of construction of the McEvoy wireless well strainer have been proved during the many years since this type of strainer was introduced in 1906. The most recent marked improvement was the method of imbedding each button securely in the wall of the pipe so that it will withstand approximately 3000 pounds per square inch from inside. The metal of the pipe is flowed around the circumference of the button, locking it in place; in effect making the insert and pipe integral.

It is practically indestructible, and is made for high pressures. Slips can be used anywhere on strainer, and may be used for side-tracking jobs, spudding and rotating. It can be pulled without damage and used again. It hits bottom in perfect condition.

▪ *McEvoy Preformed Wire Strainer*

Launched after months of development and manufactured with the same thoroughness of design and correct metallurgical specifications that characterize the McEvoy Wireless strainer.

Wire grips pipe instead of constantly tending to uncoil, thereby greatly increasing screen life and effectiveness.

▪ *McEvoy Type M Tubing Head*

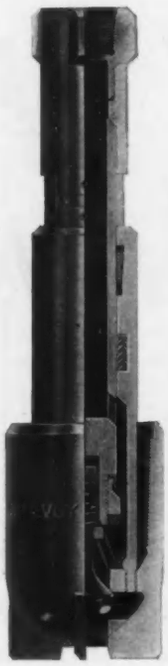
The McEvoy type M tubing head makes possible the removal of tubing from the well or the changing of its position in the well without the necessity of killing the well. It makes possible the installing of tubing in wells under pressure where the well has been on production for some time without tubing having been used. It makes easily possible the drilling-in, in certain formations, with the cable tool after the rotary system has been used to drill the hole down to the production horizon. In such territories all that is necessary is to install a master casing valve below the tubing head for the purpose of closing the casing after formation has been drilled into by the cable tool and the tools removed from hole.

▪ *McEvoy Quadruple-Seal Set Shoe Assembly*

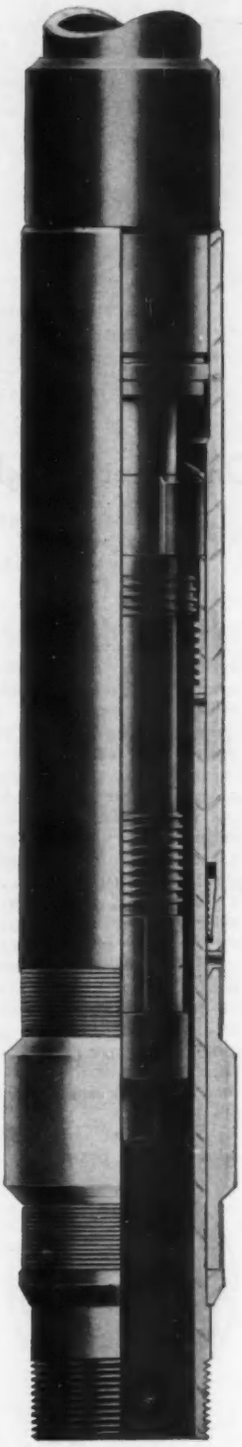
This set shoe insures a seal at the bottom of the strainer setting after washing is completed. This is accomplished by four separate sealing devices in series.

▪ *McEvoy Packer and Setting Tool*

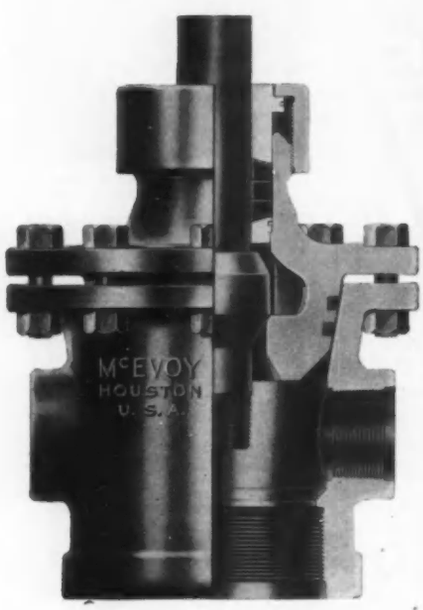
This packer is of highly improved construction, and is used with a setting tool of simple and sturdy construction. The



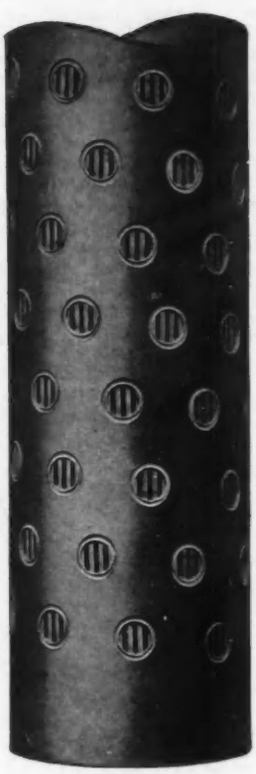
McEvoy Quadruple Seal Set Shoe Assembly



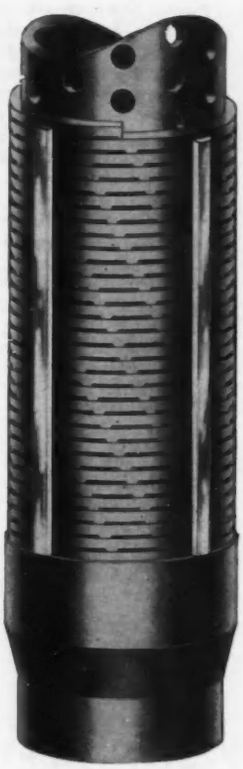
McEvoy Packer and Setting Tool



McEvoy Tubing Head



McEvoy Wireless Well Strainer



McEvoy Perforated Wire Strainer

THERE'S VERY LITTLE DIFFERENCE IN PISTONS

THANK THE LORD FOR THAT LITTLE DIFFERENCE IN KIBELE'S—I'VE USED 'EM ALL

. . . and thus the man who knows, from real experience, gives to the man who imagines things a real answer.

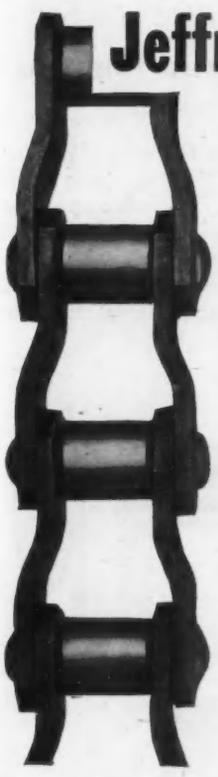
KIBELE, the oldest manufacturer of specialty pistons, is also one of the most consistent developers of improved pistons . . . as conditions demand improvements. KIBELE has spent a small fortune on piston packing rings alone, and the man at the pump sees every day how this added investment and manufacturing care adds to KIBELE piston performance and durability.

And another thing: Why buy 4 different kinds of piston rings just because you have 4 different makes of pumps? The same KIBELE piston can be bored to fit the rods in all 4 pumps and the ring is interchangeable on any KIBELE Piston of the same size.

SOLD AT ALL LEADING SUPPLY STORES

KIBELE
MANUFACTURING COMPANY
SLUSH PUMP PISTONS OIL FIELD SPECIALTIES, WELL SWABS
A KIBELE DOESN'T COST IT EARNS
5101 MAPLE AVE. DALLAS, TEXAS

Export Office: OIL INDUSTRY APPLIANCES Co., 39 Cortlandt St., N.Y. City



Jeffrey High Quality
CHAINS
for
Rotary Drilling

Let's talk realities for a moment, man to man.

Do you know that Jeffrey Chains run true on the longer drives? The heads of pins and extension of pins beyond cotters are of equal weight.

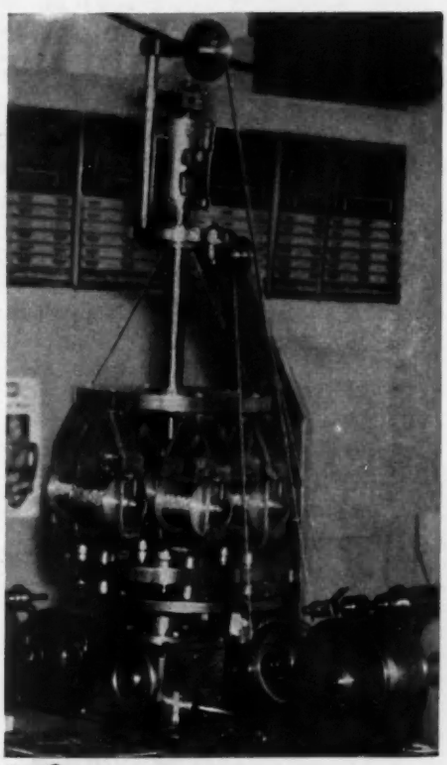
Do you know that the D-head pins on Jeffrey Chains are a metal to metal fit . . . permanently locked in the side bar? Strength is increased and superiority to other chains is assured.

Do you know that Jeffrey Chains are furnished in three strengths . . . Standard, Plus and Alloy . . . all carefully made so that you can avoid the risk of costly breakdowns, possible misfits and frequent replacements? We recommend Jeffrey Alloy Chains No. 1640A and 1624-A for wells 5000 feet in depth and over.

You can't go wrong with Jeffrey Oil Well Chains. Let them prove their cost-saving advantages.

The Jeffrey Manufacturing Company
985-99 North Fourth Street, Columbus, Ohio

Distributor: Houston Oil Field Material Co., Inc.,
1524 Maury St., Houston, Texas
California-Bettis Co., 1900 E. 65th St., Los Angeles, Calif.



SEE THIS
AT THE SHOW

Making "Form-Set" Preformed Wire Rope

●

Samples
FREE

●

This real planetary machine will make, right before your eyes, 3/32" 6 x 7 PURPLE STRAND FORM-SET WIRE ROPE which will be given to visitors in small samples.

WILLIAMSPORT BOOTH
Houston
April 8 - 13

Williamsport
WIRE ROPE COMPANY

Main Office and Works: Williamsport, Pa.
Branch Sales Offices: 122 S. Michigan Ave., Chicago, Ill.
Mid-Continent Supply Company
Distributors in Texas, Louisiana and Arkansas

operation of the McEvoy Packer and Setting Tool is very simple.

▪ *McEvoy Type B Set Shoe Assembly*

This is an inserted type and a modification of a short type special set shoe assembly introduced by McEvoy in 1926. It contains two back-pressure valves for

McEvoy Type B Set Shoe Assembly

safety and additional valves may be added if desired. It permits close setting of the screen surface to the bottom of the hole. This decreases the danger of getting bottom-hole water in many formations.

▪ *McEvoy Blowout Preventer Inserter*

The McEvoy blowout preventer inserter mechanically operates standard types of packing assemblies under the derrick floor. By simply pulling a lever the pressure gun shoots packing assembly around pipe. It also is easy to retract. Only 10 to 30 minutes are required for two men to change assembly for different pipe sizes.

The new mechanism is attached to present equipment.

▪ *McEvoy Type B Microchoke*

Horizontal movement of the stem can be read to less than 1/1000 of an inch, and parts may be interchanged to make positive type choke. Flange construction allows changing of the shell type flow bean without use of tongs. Choke bean can be removed without disconnection of flow lines. This choke is made in two pressure ranges (1) tested up to 5000 pounds and (2) tested up to 8000 pounds.

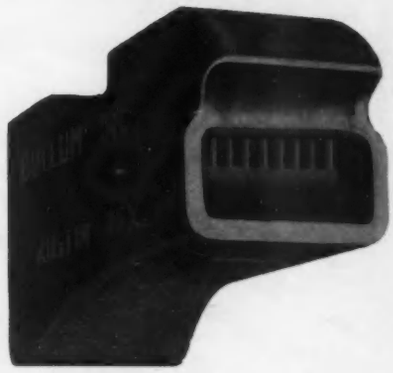
Bullum, Inc.

▪ *Burners*

Bullum, Inc., Austin, Texas, has on display the complete line of Bullum burners for the oil industry. Featured in this exhibit is the combination oil and gas burner, designed to burn the heaviest grades of fuel oil, or liquid residue, natural gas, cracking coil gas, or by-product gas. These units may burn only oil, gas only, or both oil and gas simultaneously, and the change from one fuel to the other is made quickly and easily, without interruption to the operation.

Bullum burners incorporate no working parts, but are single castings of close-grained grey iron, a minimum thickness of 5/16-inch. They thoroughly atomize any grade of fuel or liquid residue.

The Bullum pulsation block directs the air to the point where it is needed, and



Combination Oil and Gas Burner

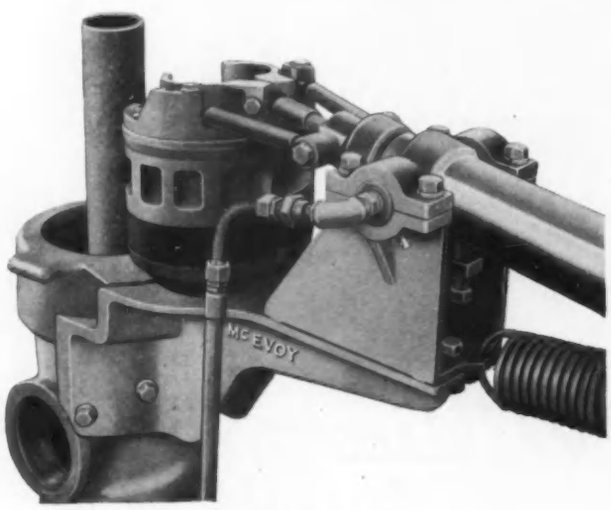
the grooves in the fuel channel guides the fuel oil directly over steam openings where steam is at its highest pressure, effecting a thorough mixture, and therefore proper combustion. The pulsation block and its position regulates the air, controls gas formed from heating fuel and eliminates flame pulsation while operating.

These combustion units are manufactured in four sizes, for use in conventional boiler, still and industrial furnace sizes.

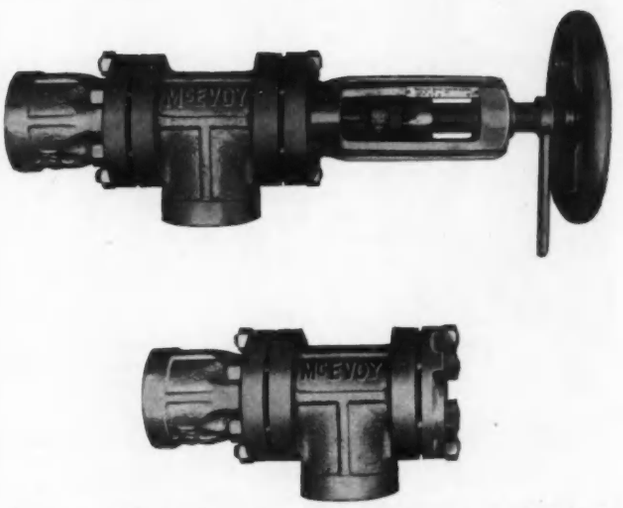
Bridgeport Brass Company

▪ *Special Mill Products*

Bridgeport Brass Company, Bridgeport, Connecticut, is displaying in a decorative manner condenser and heat exchanger tubing and plates, brass and copper tubing, rods, sheets, wire, Duronze silicon bronze alloys, brass and copper pipe and other brass and copper mill products.



McEvoy Blowout Preventer Inserter



Type B Microchoke. Above, adjustable type, and below positive type

Everything BULLARD in Safety

BULLARD

Well-pulling crew wearing Hard Boiled Hats. They prevent head injuries. Write for catalog.

HARD BOILED HATS

NATION-WIDE SERVICE

EAST
NEW YORK W. S. Wilson Corporation - 122 Varick St.
PITTSBURGH Safety First Supply Co. - Brady Building
PHILADELPHIA J. A. Hunt Co. - 2035 Sansome St.
CLEVELAND Safety Clothing Co. - 3004 Payne Ave.
BRAINTREE, MASS. Direct Sales Co., 106 President Road

SOUTH
CHATTANOOGA, TENN. C. D. Genter Company, Chattanooga Bank Building

MID-WEST
DETROIT C. H. Dockson Company - 2065 East Grand Boulevard
CHICAGO E. D. Bullard Company - 215 South Leavitt Street
GREEN BAY, WIS. Safety Service Company - 108 No. Quincy Street
DULUTH W. P. & R. S. Mars Company - 324 W. Michigan Street
HOUSTON E. D. Bullard Company - 1 Main Street

WEST
SAN FRANCISCO E. D. Bullard Company - 275 Eighth Street
LOS ANGELES E. D. Bullard Company - 1239 South Olive Street
SALT LAKE CITY E. D. Bullard Company - 1020 Yalecrest Avenue

Clothes with

CHARACTER

CUSTOM tailored to the individual, Hamilton Brothers suits attain a perfection that aptly reflects the discriminating taste of the wearer.

Their quality is the result of expert cutting and designing; superior workmanship and meticulous attention to details. As a consequence men who appreciate the importance of personal appearance, come to us for their tailoring.

Suits of finest imported or domestic woolens at $85.00 up.

Hamilton Bros.

Established 1883

510 MAIN ST., HOUSTON, TEXAS

"The well dressed man knows Hamilton quality"

MOTIVE POWER
for the OIL INDUSTRY

OUR intimate knowledge of the varied requirements of the Oil Industry are always available to individual and corporate needs.

Both officers and directors of this Bank are men of wide business experience enabling us to render a completely modern Banking Service in all its commercial phases.

This accumulated knowledge of the Oil Industry in the Southwest is at your command.

The FIRST NATIONAL BANK FORT WORTH

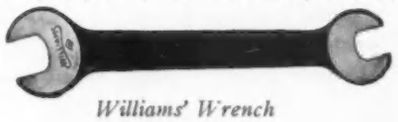
Oldest National Bank in Fort Worth

J. H. Williams & Co.

J. H. Williams & Co., 75 Spring Street, New York, has a complete exhibit of its various tools.

▪ *Carbon Steel Wrenches*

Williams' carbon-steel wrenches are drop-forged and hardened, and of high quality. Openings are accurately milled,

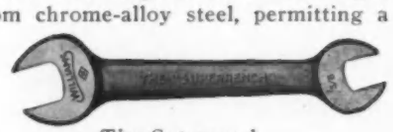


Williams' Wrench

surfaces and edges finished smooth and furnished with bright heads and baked on black enamel handles.

▪ *Williams' "Superrenches"*

Williams' "Superrenches" are forged from chrome-alloy steel, permitting a



The Superrench

trim, light, slim-jawed design of unusual strength. Superrenches are available in all popular patterns including single and double head engineer's, Duo-hex-Box patterns and offset socket wrench patterns designed especially for refinery service. All "Superrenches" are heat treated and chrome-plated with high polished heads.

▪ *"Vulcan" Chain Pipe Vise*

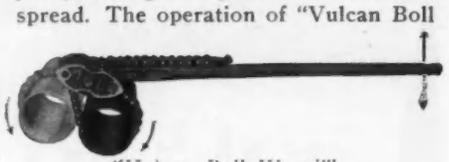
These vises are light, compact, rapid in action and positive in grip. Suitable for fastening to either bench or post. They are made of wrought steel with

Vulcan Chain Pipe Vise

drop-forged jaws, saw tempered for file sharpening. The chains are of the same quality as Vulcan chain pipe tongs.

▪ *Reversible Chain Pipe Tongs*

"Vulvan Boll Weevil" is a simplified tong, having only six parts. It is designed for general oil country service, but it is particularly suited for pipe line work. The "I-Beam" construction of the handle lends rigidity and strength. Two bolts firmly secure the jaws, making it impossible for them to spread. The operation of "Vulcan Boll



"Vulcan Boll Weevil"

Weevil" tongs is likewise extremely simple. The tongs do not need to be held up to the pipe but are laid on top of it and the chain hooked around. To "make-up" pipe, tongs are slid forward so that the rear end of the jaws engages pipe and the handle is pushed down. For "breaking-out" tongs are pulled back to engage forward teeth with the pipe and the operator pulls up on the handle. Jaws are reversible,

WELCOME TO OUR SHOW-
A surprise product never shown before
ALSO IMPROVEMENTS IN: BLOWOUT PREVENTERS • CASING HEADS
CHRISTMAS TREES • STRAINERS
PACKERS •
CHOKES • ETC •
ESTABLISHED 1906
J.H.McEVOY & COMPANY
GUAGES USED IN MANUFACTURING
McEVOY PRODUCTS - - ACCURATE
TO 8/1,000,000 OF AN INCH

providing double life, and each chain is proof tested and certified. Four sizes accommodate pipe from ¼-inch to 12 inches.

▪ *"Vulcan" Pipe Tongs*

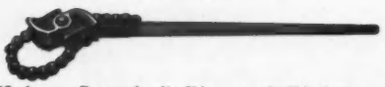
This is the original "Vulcan" introduced by Williams about 35 years ago. It is made entirely from tough wrought

"Vulcan" Chain Pipe Tongs

steel and is fully guaranteed. Available in nine sizes with either flat link or cable chain for pipe ⅛-inch to 18 inches.

▪ *Pipe and Fittings Tongs*

"Vulcan Superior" is a universal service tongs for both pipe and fittings. The "V" recess in the jaws insures quick and positive grip on fittings. The jaws also are reversible.



"Vulcan Superior" Pipe and Fittings Tongs

All "Vulcan Superior" Chains are proof tested and certified. Tongs are available in seven sizes for pipe ⅛-inch to 12 inches. Extra chains for all patterns on Williams' Tongs are interchangeable size for size. This is a new Williams feature which simplifies replacement and reduces dealer's stock.

▪ *"Vulcan Superior" Chain Pipe Vise*

This vise has four distinctive features:

1. "Overhead" adjustment—the handle is on top where it is easy to operate.

2. Reversible jaws—when the teeth first in use wear, simply remove the screws and turn the jaws over.

Williams' "Vulcan Superior" Chain Pipe Vise

3. Larger capacity—each vise takes pipe ½-inch larger than other chain vises of similar size.

4. Supplied in two styles of finish—chrome-plated over nickel, and standard finish with orange panel in jaws.

E. D. Bullard Company

▪ *Reel Hose Mask*

E. D. Bullard Company, San Francisco, California, exhibits a reel hose mask approved by the U. S. Bureau of Mines. The blower may be operated from the truck as with standard type masks or it may be removed and carried near the job. The complete outfit may be removed from the truck and carried from place to place by one man. Included in the Bullard Hose Mask trunk is a full ball-bearing aluminum blower, 50 feet of hose mounted on a portable metal reel, a Bullard one-piece molded face piece and safety belt and fittings.

▪ *Bullard Sirens*

The Bullard sirens shown are manufactured in sizes ranging from one-sixth horsepower to 15 horsepower. The fractional horsepower sirens are particularly adaptable to automotive equipment. Large sirens are used for fire districts and refinery signals. The Bullard coding device, which may be furnished with any size Bullard siren,

provides a series of short, sharp blasts which may be coded to designate any desired signal.

▪ *First Aid Kit*

The aluminum container of the kit on display is cylindrical in shape, nine inches tall and four inches in diameter.

The kit is provided with mountings to attach it to any wall surface. Dressings and treatments are contained in a canvas roll-up which folds inside the aluminum container. The canvas roll-up may be removed and replaced with a full roll-up. Roll-ups which have been removed may then be inspected at leisure at a central point.

▪ *Gardtoe Safety Shoes*

Gardtoe Shoes, exhibited by Bullard, are manufactured by the Chippewa Manufacturing Company, one of the leading manufacturers specializing on work shoe types of footwear. The Gardtoe is designed and built to give full protection to all toes, guarding them against injury from falling objects as well as truck wheels which so often run over the side of the foot causing injury to the little toes.

▪ *Goggles and Respirators*

Bullard also shows a complete line of goggles for all protective purposes, manufactured by Willson Products, Incorporated. Special goggles are available for chipping, grinding, welding, chemicals, particular dust conditions and all other standard industrial hazards. Besides a complete and well known line of respiratory devices Willson Products, Incorporated, this year exhibits through Bullard for the first time a new respirator carrying the approval of the U. S. Bureau of Mines. This respirator incorporates notable improvements in protection.

▪ *H & T Derrick Slide*

This is a device for immediate escape from oil derricks in case of emergency. It is light in weight and is carried on to the tower where it is fastened to a guy wire or a wire specially installed for quick escape. In emergency the man slides one foot through the saddle, releases the brake and slides down the wire to safety.

▪ *Asbestos Clothing*

E. D. Bullard Company exhibits also a complete line of asbestos clothing, including jumpers, complete suits, gloves and spats.

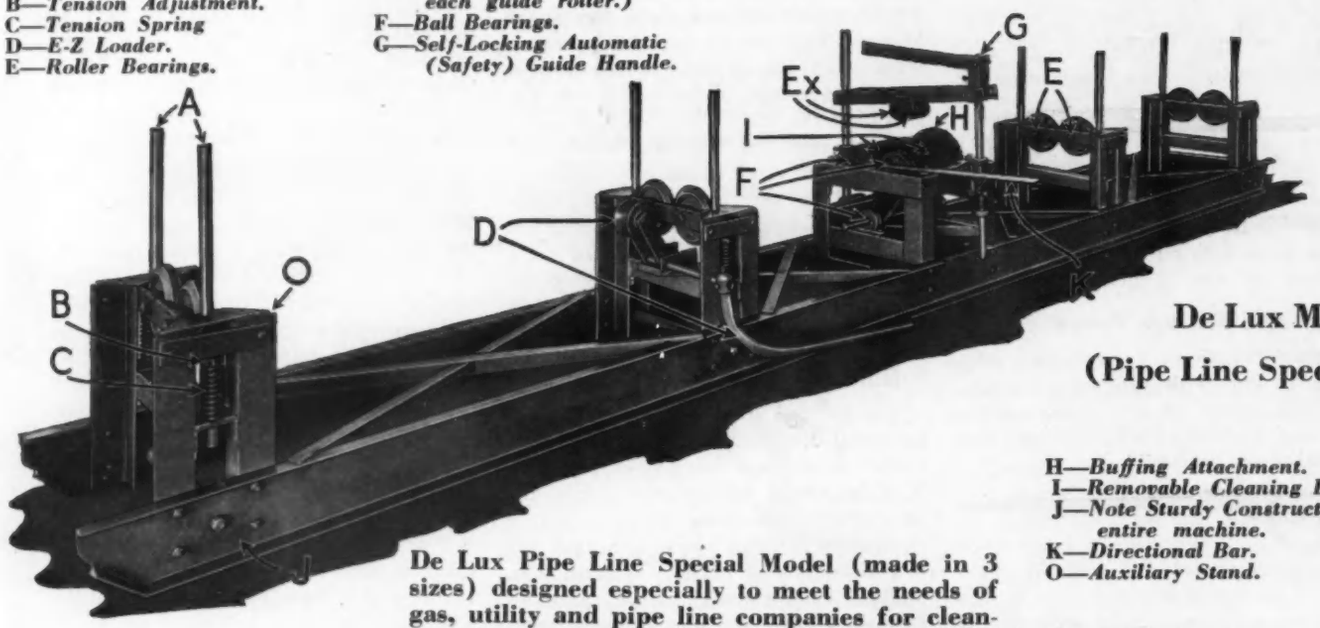
▪ *Hard Boiled Hats*

"Hard Boiled Hats" shown by Bullard have been extensively used by well-pulling crews and in other operations in which head hazards exist. The "Hard Boiled Hat" is a protective hat, light in weight and comfortable to wear, which resists the impact of falling objects of all sorts.

Remove all—Dirt . . Rust . .
With the NEW DEAL

A, B, C, D, and E, are Features Found ONLY on Our De Lux (Pipe Line) Special

A—Removable Safety Bars.
B—Tension Adjustment.
C—Tension Spring
D—E-Z Loader.
E—Roller Bearings.
E-X—Dual Roller Bearings (in each guide roller.)
F—Ball Bearings.
G—Self-Locking Automatic (Safety) Guide Handle.



De Lux Model
(Pipe Line Special)

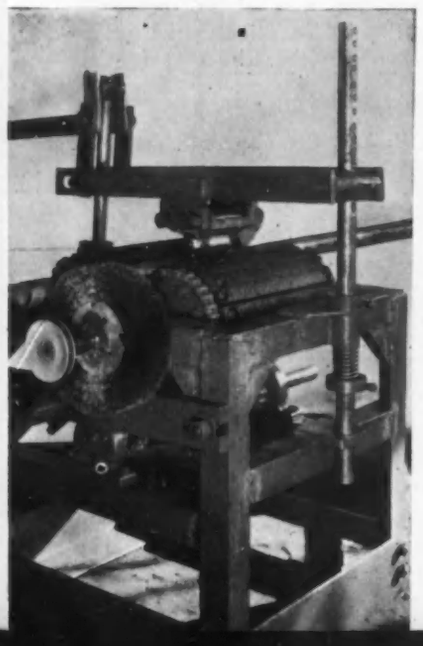
H—Buffing Attachment.
I—Removable Cleaning Blades.
J—Note Sturdy Construction of entire machine.
K—Directional Bar.
O—Auxiliary Stand.

De Lux Pipe Line Special Model (made in 3 sizes) designed especially to meet the needs of gas, utility and pipe line companies for cleaning pipe that is not quite straight. Regular Models (2 sizes) shown on opposite page cleans straight pipe only.

Built Like a Battleship—
Runs Like a Sewing Machine

ADAPTER FOR SMALL PIPE

The picture below shows adapter for handling pipe as small as ¾". It is easily and quickly installed, and holds the pipe firmly between the cleaning rollers. As sturdily constructed and efficient as the dual guide rollers for larger size pipe. Can be used on all models and sizes.



WHAT USERS SAY

"80 percent cheaper than previous methods"

"Still in operating shape, and we don't see how we ever got along without it."

"We like it fine"

"We are very proud of this machine and it hasn't given us any trouble."

"We feel as though the investment has been repaid"

"We find it satisfactory in every way"

"Yes! It really gets the job done."

"We are very proud of it."

"We are highly pleased with the splendid performance this machine has given us."

★ ★ ★ ★

SEE OUR DE LUX AND REGULAR MODELS AT HOUSTON OIL SHOW

. . Scale . . and . . Corrosion
Pipe Cleaning Machine

The New Deal Pipe Cleaning Machine has been adopted by Producing Companies, Utilities, Pipe Yards and Supply Companies throughout the Mid Continent Field. Its performance has exceeded their expectation for quick, uninterrupted, economical operation. One machine has cleaned over 300,000 feet of pipe; another group of 8 machines has cleaned over 2,000,000 feet of pipe—all machines still in excellent condition with original brushes and cleaning blades. It will pay you to investigate the New Deal Machines at once.

Cleans and Brushes at one operation
The Dirtier the Pipe the Better it Cleans

All Machines mounted on 25' frames, complete with brushing attachment and auxiliary stands.

Regular Model
Heavy Duty Size

Close up view, showing Automatic Guide Handle and Guide Rollers; Reversible, Removable Blades, and Circular Wire Brush Attachment with V-Belt Drive. Note coupling and pipe are really clean (unretouched photo.)

Rapid Efficient and Compact

Power

Electric
Gas or
Gasoline
Motor

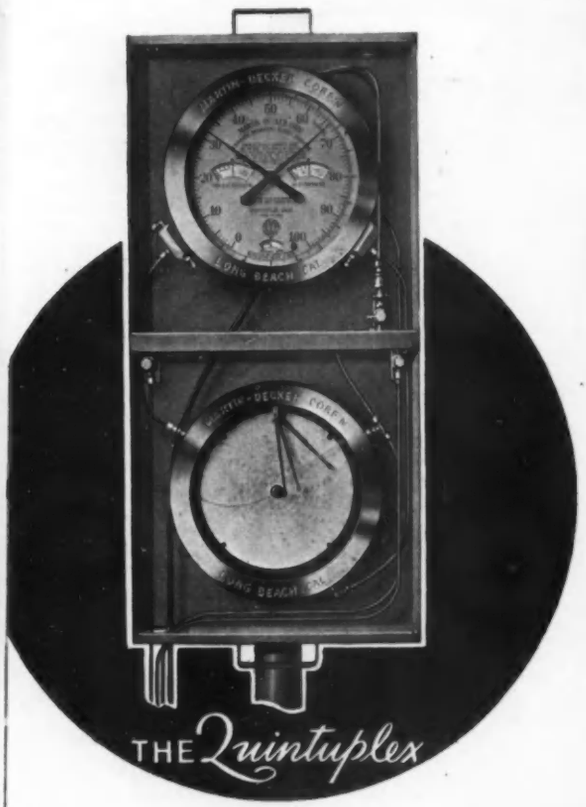
Write for Folder Today

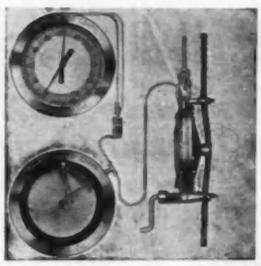
The NEW DEAL SPECIALTY CO., Inc.,
Okmulgee, Okla.
P. O. BOX 1504
PHONES
2078 or LD 14

DRILLING CONTROL INSTRUMENTS

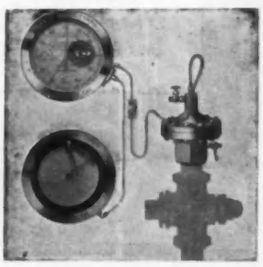
BY Martin-Decker

Since 1926, when Martin-Decker introduced the first practical Weight Indicator to the oil industry, many changes and advancements have been made in drilling practice. They have endeavored to anticipate these developments and be ready with the proper instruments when the industry needed them. Today "Martin-Decker" offers the oil industry a dependable line of drilling control instruments with which to meet and master the problems of present-day drilling.





THE NEW "MARTIN-DECKER" WEIGHT INDICATOR covers a range of uses that heretofore have required two instruments; one for steady, straight-ahead drilling, and another, of extreme sensitivity, for all light-weight, ticklish jobs. These two instruments are now combined in the new "Quintuplex" type Weight Indicator.



THE "MARTIN-DECKER" MUD PUMP GAUGE indicates mud pump pressures under all conditions, and insures safe and efficient operation of mud pumps installed out of sight and hearing from the derrick floor.

THE "MARTIN-DECKER" TORQUE GAUGE indicates immediately any change in the amount of pressure required to turn the drill pipe. It gives the first warning of changes or trouble at the bit.

THE "MARTIN-DECKER" ROTARY TABLE TACHOMETER shows the speed of the table. Some really surprising reductions in cost are being accomplished by study of the relation of weight and speed to the amount of hole per hour and hole per bit in different formations. This Tachometer is simple and sturdy and can be installed and calibrated quickly.

THE "MARTIN-DECKER" "QUINTUPLEX" DRILLING CONTROL INSTRUMENT combines all of the above indicators in one 12-inch gauge case which is mounted in the upper half of a steel box and installed directly in front of the driller, as he stands at the brake. In the lower half of the box a triplex recorder is mounted which inscribes a 24-hour record of weight, mud pressure and torque strain on the drill pipe, on one 12-inch chart.

Under most conditions, operators prefer to install the complete Quintuplex, but you may buy it in any combination or each instrument may be purchased separately.

These instruments are described more fully in our booklet, "Drilling Control". If you care for a copy we will be glad to send it wherever you direct.

THE WEIGHT INDICATOR

MARTIN DECKER CORP.

LONG BEACH CALIFORNIA

San Joaquin Valley: A. F. McQUISTON, Oildale, California

MARKETS and STATISTICS

Markets Continue Favorable Despite Unsettling Factors

THE market situation has continued generally bright, although there have been some unfavorable developments lately along with others of a favorable nature.

Although the Mid-Continent markets are comparatively strong, hot oil output in East Texas continues to be a disturbing factor, and retail markets in Texas have lately developed pronounced weakness. Service station postings were reduced last week in North Texas, because of low prices at which East Texas material was available.

The markets in California have also lost ground, retail price cutting having occurred the past week in the southern part of the state.

The reduction of postings in California was induced by a weakening of the marketing program that has been functioning under code sanction. Under the program, refiners are obligated not to supply retail price cutters. Some retailers selling below the authorized postings were securing supplies despite the marketing agreement, however, it was asserted, and for that reason the postings were reduced.

Mid-Continent Strong

The Mid-Continent markets, exclusive of Texas, have continued relatively strong. The tank car prices prevailing at the middle of the past week were, in fact, higher than a week previously in Oklahoma and North Texas; while prices at East Texas refineries continued the same as in the previous week.

The new prices on U. S. motor gasoline in Oklahoma and North Texas were averaging about as follows: 4⅛ cents a gallon for third grade (below 62 octane), 4⅝ cents for standard grade (62-67 octane), and 5⅛ cents for premium grade (68-70 octane). Those prices were in all cases one-eighth cent higher than quotations prevailing a week earlier. In East Texas the corresponding tank car prices were 4, 4½, and 5 cents, or the same as a week previously.

These Mid-Continent priees are the highest of the year, and they are substantially above the average levels of last year. In 1934 the prices were higher than at present only for a period of several weeks in May and June.

The present generally favorable market in the Mid-Continent is based to considerable extent on the moderate success in controlling East Texas, while the seasonally large gasoline consumption of the spring is also a favorable factor.

East Texas Hot Oil

There continues substantial hot oil output in East Texas, however, current estimates being around 30,000 barrels daily. The hot material, shut off from rail movement both interstate and intra-state, is being forced altogether on the Texas markets. The retail markets within the state have consequently developed pronounced weakness.

In Dallas under-selling of independents forced major companies last week to reduce their postings, and the independents, in turn, cut still lower, to 11 cents a gallon, including the five cents total taxes. Critical conditions were developing, meanwhile, in other sections of the state, and spread of price-cutting appeared to be in prospect. In Houston an association of independent service station owners protested to state authorities about the underselling of competitors who were using hot gasoline trucked in from East Texas. They indicated they might be forced to handle the illegal material to remain in business.

Gasoline Prices in California Reduced

EFFECTIVE April 3, the retail price of gasoline broke two cents in the greater Los Angeles area, and it is feared the new low prices will extend to a much greater territory unless officials of the sales agency can bring the warring factions together. The break in prices was led by Shell Oil Company and four of the more important independents, making the new third grade price 13.5 cents, with a tank wagon price of 10.5 cents. Regular grade is now 15.5 cents and Ethyl is posted at 17.5 cents. All prices include three cents state and one cent federal tax. Formerly a number of independent service stations had been underselling from one to two cents, and it is expected such stations, comparatively few in number, will retail at 12.5 cents.

The trouble has been brewing for some weeks. A local organization of independent retail dealers had been pressing a demand to be permitted to undersell major company stations one cent, but were willing to compromise on one half cent margin. The fight had been continuing from week to week, with no real agreement in sight. It had been rumored for two weeks that one major company had been making deliveries to cut price stations in the face of an agency rule to the contrary. This situation helped to bring about the open break.

The tanker strike apparently is broken and it is understood there is a chance for the differences to be ironed out, clearing the way for arbitration. Several tankers the past week cleared West Coast ports, manned by non-union crews. The fact that tankers are being moved in spite of the strike has helped to bring union representatives to a willingness to reach some kind of a compromise. The moving of the tankers will care for a growing shortage of both gasoline and fuel oil in the Pacific Northwest.

A new rule applying to the Playa del Rey area as to establishment of potentials will help the production situation in that new wells will have a much lower allowable. Heretofore a new well flowed five days to establish a potential, and these wells usually averaged from 6000 to 7000 barrels, reaching a high of about 8500 to 9000 barrels. Now one day's run establishes the potential and none of the wells average more than 2000 barrels the second day's run.

According to a recent check, approximately 5000 barrels of "hot oil" is being produced daily at Long Beach and a much smaller amount at Huntington Beach, Santa Fe Springs and Mountain View. This over produced crude is being sold on the spot market to small cut price refineries, many of them no more than "tea pots." There is some natural gasoline on the spot market also, making it possible for these small plants to make enough gas-

oline to keep the market demoralized. A further disturbing element is the expiration of the agency agreement, a part of the code, next June 15. A majority of the marketers are strong in favor of the renewal of the agreement, but to be effective the agreement must be signed by close to all of the refiners, big and little. It is doubted if this decision will be reached for some weeks yet.

Upturn Expected in Mid-Continent Market

BUYING in the Mid-Continent spot market continued in a spasmodic manner during most of the week at the higher prices established recently. During the previous week any slight tendency toward weakness was immediately offset by the purchase of material which threatened to become distressed. As a result a price of 4⅛ cents per gallon was said to be the conservative low for third grade U. S. motor fuel, 62 and below octane rating. One major purchaser claimed his company actually needed the rather large amounts of motor fuel so purchased but there was a general feeling that much of the buying was done to brace the market.

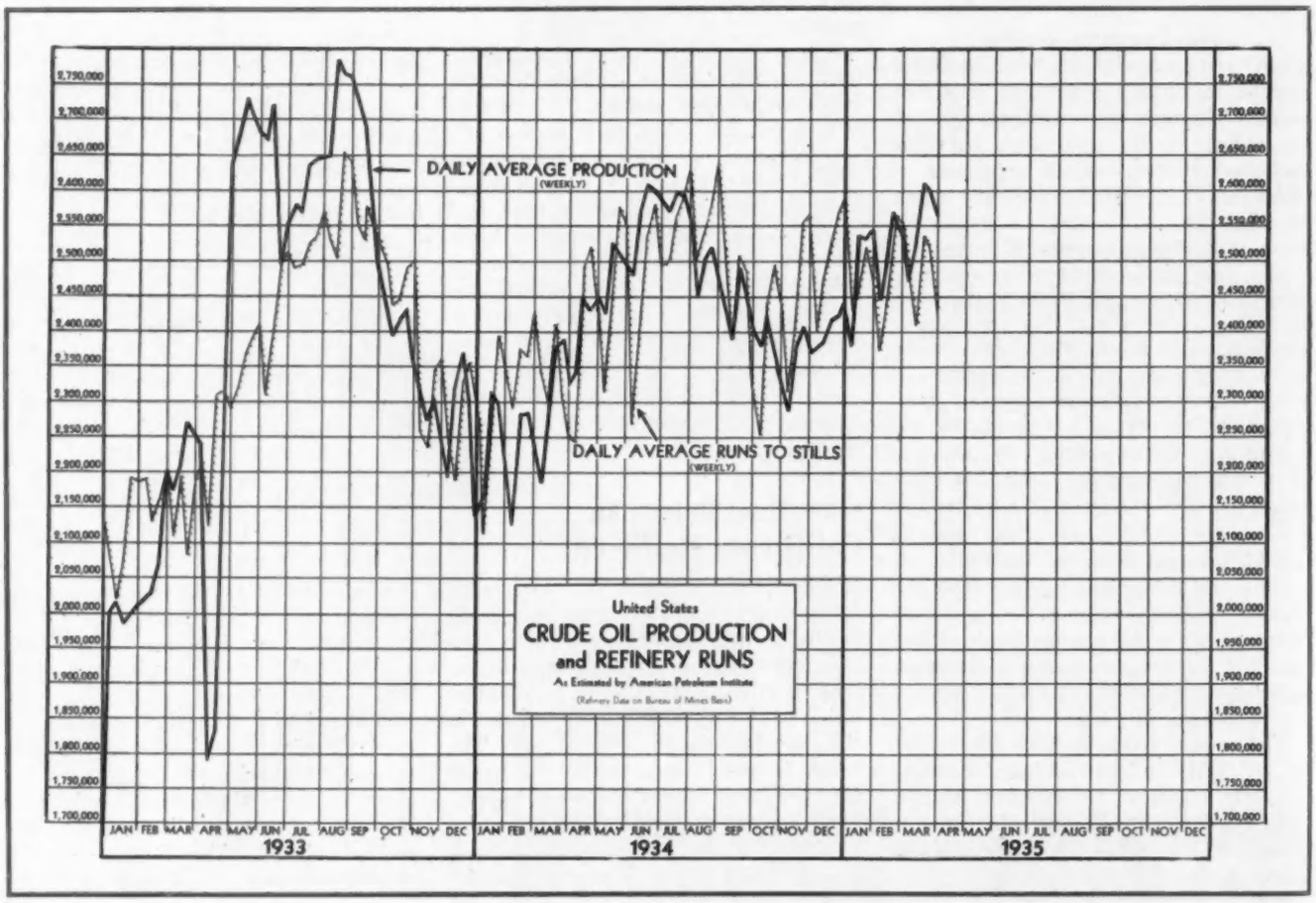
Jobber's stocks continue at a ragged minimum and rail freight rates scheduled to be hiked on April 20 are expected to furnish the impetus which will bring about a scramble to fill storage during the next week or 10 days. Increased freight rates are expected to materially affect the amount of material offered for tender to gasoline pipe line companies. Stabilized naturals were surprisingly strong under the general condition and the kerosenes and other burning oils were marked by a strong undertone.

Hot Oil Weakens East Texas Refined Market

COMPETITION among the East Texas refineries processing illegally produced crude forced a return of record low levels for tank truck sales of gasoline. Marketing of products derived from hot oil is largely confined to tank truck shipments, owing to the restrictions imposed by the tender boards which are without jurisdiction in regulating truck hauls. A number of plants made sales of commercial gasoline to truckers at prices ranging from 1½ to 2 cents per gallon f.o.b. truck dock, while a few distress sales at 1¼ cents per gallon were reported.

In contrast to this slump in market value of contraband gasoline the refiners operating on tendered crude were receiving a minimum of four cents per gallon for the U. S. motor grade late last week, major companies are buying about 250 cars per week, and have given assurance to law abiding plants that this support would continue.

Crude throughout of the 34 refineries and topping plants that operated from two to seven days during the week ending April 1, was estimated at 49,825 barrels daily average, approximately 15,000 barrels of legally produced crude was handled by the plants daily during the period, while the volume of hot oil production was credited with ranging from 20,000 to 30,000 barrels daily, with the remainder representing storage tanks alleged to have been filled prior to the enactment of the tender law.



United States Crude Oil Output Declines Slightly

UNITED States crude oil production declined slightly last week, having averaged 2,543,700 barrels daily, or 5650 barrels per day less than in the previous week. The new production rate was 16,400 barrels per day above the allowable recommended by the federal government.

The decline in output last week, that is, the week ending April 6, resulted primarily from a substantial drop for Oklahoma, and occurred despite gains in California and Texas.

Oklahoma's output for the week averaged 473,325 barrels daily, or 19,325 barrels per day less than in the previous week. The leading fields, Oklahoma City and Seminole, largely accounted for the decline. The Oklahoma allocation for April is 493,300 barrels daily.

California production rose to 487,500 barrels daily from 472,000 barrels per day the previous week, a gain of about 15,000 barrels. Fields showing the largest gains included Long Beach, Midway-Sunset, and Kettleman Hills. The state was under its federal allocation by about 6000 barrels per day, despite the gain over the previous week's output.

Texas production rose about 5000 barrels, having averaged 1,047,900 barrels daily. The state was about 27,000 barrels above its federal allocation.

Although Kansas production declined about 10,000 barrels, to a new average of 144,950 barrels daily, that state still exceeded its federal allocation about 4000 barrels.

Louisiana production was practically the same as in the previous week, having averaged 118,525 barrels daily. The state is allocated 111,000 barrels daily on the federal schedule for April.

The above figures do not include surreptitiously produced crude. Such production, chiefly in East Texas, was estimated last week at about 32,000 barrels daily, compared with 30,000 barrels per day the previous week.

Oklahoma Allowable for April 493,000 Barrels

Oklahoma City.—Approximately 57,000 producing wells in Oklahoma will be allowed to produce 493,300 barrels per day under orders issued by the corporation commission for April, 1935. Of this large group approximately 53,000 wells are in stripper and unprorated areas and are estimated to be capable of making an average of three barrels per day. The remaining 4000 wells range from a few barrels to more than 20,000 barrels per day capacity. Proration has been largely eliminated in the Class B pools, 13 of which are now producing to capacity and others probably will be removed from restriction within the next 30 days. Seminole proper et al probably will be the next group to be allowed capacity production.

Oklahoma City Oil Zone Extended Again

Oklahoma City.—The Oklahoma City drilling zone was given another extension on Tuesday, April 2, when residents turned in an affirmative vote on three tracts which include an area of approximately 300 acres. One portion of the new zone extends to within 700 feet of the governor's mansion and the entire extension is within the residential district. The governor's mansion is only a few hundred yards east of the capitol building. On March 5 voters extended the zone northward to include a residential area of approximately 1000 acres.

International Petroleum Buys McClintic Properties

San Angelo, Texas. — International Petroleum Corporation, Fort Worth, has acquired Weekly Oil Corporation's H. L. McClintic 320-acre lease, located on the Crane-Upton county line in the McClintic pool, with two wells prorated to 85 barrels daily, and is starting work on two additional tests to be drilled on the east line of the property. This deal involved a cash payment of $52,500, and the purchaser assumes an outstanding $60,840 oil payment due Humble Oil & Refining Company from one-fourth of the production. The McClintic lease consists of the south one-half of the north one-half, and the north one-half of the south one-half of Section 206, Block "F", about two miles southwest of the record depth test being drilled by Gulf Production Company on the J. T. McElroy ranch.

Two deals involving properties in the Grand Falls district, Ward County, were completed recently. S. Caprito of Breckenridge, Texas, paid $15,000 cash for Wahlenmaier Petroleum Corporation's C. Bergman and R. M. Blodgett leases in Section 26, Block 5, H&TC Ry. Survey, aggregating 140 acres, with two small oil producers. Roy A. Westbrook, Fort Worth operator and discoverer of the Hendrick field, paid $18,000 cash for Fred Postelle et al's Lee Monroe lease, Section 55, J. Howe-J. W. Jackson Survey, with a 25-barrel producer.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

District or State	Barrels Daily for Week Ending April 6	Mar. 30
TEXAS—		
Texas Panhandle	66,100	63,100
North Texas	57,600	57,500
West Central Texas	25,800	25,800
West Texas	153,100	152,800
East Central Texas	51,900	52,400
*East Texas Field	451,100	448,700
South Texas	60,200	60,100
Texas Gulf Coast	182,100	182,100
*Total Texas	1,047,900	1,042,500
OKLAHOMA—		
Oklahoma City	122,450	146,875
Seminole Area	114,875	123,700
Tatums	6,225	5,200
Lucien	6,200	8,025
Fitts	12,475	14,625
Others	217,300	194,225
Total Oklahoma	473,325	492,650
KANSAS—		
Ritz-Canton	9,725	9,275
Voshell	4,925	6,525
Nikkel-Hollow	9,150	9,525
Sedgwick	10,775	10,825
Burrton-Haury	19,325	25,150
Others	91,050	93,600
Total Kansas	144,950	154,900
LOUISIANA—		
North Louisiana	22,325	22,100
Louisiana Gulf Coast	96,200	96,200
Total Louisiana	118,525	118,300
ARKANSAS	31,200	31,100
CALIFORNIA—		
Long Beach	66,500	60,000
Santa Fe Springs	38,500	37,500
Huntington Beach	39,000	38,500
Dominguez	21,500	22,000
Inglewood	11,000	10,000
Ventura Avenue	10,500	13,000
Seal Beach	7,500	7,000
Midway-Sunset	54,000	47,500
Elwood	11,000	10,000
Kettleman Hills	67,500	64,500
Mountain View	9,500	10,500
Playa del Rey	11,500	16,000
Others	139,500	136,500
Total California	487,500	472,000
MOUNTAIN STATES—		
Wyoming	33,100	32,500
Montana	10,600	10,500
Colorado	5,200	5,100
Total Rocky Mountain States	48,900	48,100
NEW MEXICO	47,100	47,300
EASTERN STATES	107,500	106,700
MICHIGAN	36,800	35,800
*Total United States	2,543,700	2,549,350
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	32,000	30,000
Grand total including surreptitious production	2,575,700	2,579,350

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended March 30, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys., Term., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	582	582	100.0	421	72.3	7,386	9,951	17,337	856	145	9,785	496	471	95.0	60
Appalachian	150	140	93.3	99	70.7	1,270	877	2,147	348	115	860	69	69	100.0	21
Ind., Ill., Ky.	446	422	94.6	315	74.6	6,620	2,948	9,568	715	50	4,416	325	309	95.1	93
Okla., Kans., Mo.	461	386	83.7	240	62.2	3,498	2,197	5,695	705	380	3,925	256	238	93.0	64
Inland Texas	351	167	47.6	89	53.3	1,289	120	1,409	224	660	1,897	82	66	80.5	30
Texas Gulf	601	587	97.7	498	84.8	6,525	245	6,770	1,692	260	8,424	358	355	99.2	95
Louisiana Gulf	168	162	96.4	121	74.7	1,078	523	1,601	216	.....	3,491	71	71	100.0	14
North La.—Ark.	92	77	83.7	41	53.2	173	75	248	49	135	345	41	38	92.7	7
Rocky Mountain	96	64	66.7	41	64.1	988	.....	988	105	60	761	46	42	91.3	13
California	848	822	96.9	429	52.2	9,083	1,542	10,625	950	2,560	65,201	209	209	100.0	52
TOTALS WEEK: March 30, 1935	3,795	3,409	89.8	2,294	67.3	37,910	18,478	56,388	5,860	4,365	99,105	1,953	1,868	95.6	449
March 23, 1935	3,795	3,409	89.8	2,384	69.9	37,858	19,013	56,871	6,088	4,325	99,351	1,953	1,868	95.6	458

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week March 30, 1935, compared with March 1934 Bureau figures.

Estimate B. of M. Basis March 30, 1935	2,430		500
Estimate B. of M. Basis March 23, 1935	2,520		510
U. S. B. of M. March 1934: Daily Average Crude Runs	2,316	U. S. B. of M. March 1934: Daily Average Cracked Prod.	446

(a) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(b) Estimated. Includes Unblended Natural Gasoline at refineries and Plants; also Blended Motor Fuel at plants.

Motor Vehicle Cost Increased by Taxes

Tulsa.—Special additional taxes imposed upon motor vehicles have increased so much that their total the first year alone averages nearly 12 percent of the retail value of the car, it was said today by Clarel B. Mapes, secretary of the Oklahoma Petroleum Industries Committee.

Mr. Mapes explained that a national survey of such taxes imposed the first year upon the average small motor vehicle had disclosed that the cost of federal taxes on gasoline and oil, plus state taxes on gasoline, average $25.26. Registration and other fees averaged $18.45, and federal excise taxes averaged $17.95. The total average tax bill the first year was found to be $62.66, of which gasoline taxes constituted about one-half.

The purchaser of the new small car in Oklahoma, he said, was found to pay $17.95 in federal excise taxes, $5.50 in federal gasoline and oil taxes, $20.00 in state gasoline taxes, and $16.40 in other state fees and taxes, a grand total average tax of $59.85. He pointed out that many owners of small cars pay more than the average while owners of larger cars generally pay much more.

Comparison of Permits Granted for New Wells

STATE—	Week Ending Mar. 30	Total this Mo.	Total this Year	Total this Date Last Year	1934 Year Total
Arkansas	3	12	43	11	100
California	25	97	208	118	629
Louisiana	9	73	185	186	799
Kansas	24	150	376	220	1,015
Michigan	4	30	92	110	460
Oklahoma	37	226	532	485	2,045
Texas	214	1,300	3,293	2,156	10,550
Total	316	1,888	4,729	3,286	15,598

Alleged False Tender Trial Begins Soon

Austin, Texas.—Trial of three East Texas oil operators on alleged forgery charges will begin in 98th District Court during the week of April 29. Named in the indictments are J. R. Reid, Jerome K. Reid, and Sid Myers, alias Hill Myers. The indictments grew out of papers in a suit to move oil without a railroad commission tender. The defendants are alleged to have furnished data contained in these papers. The state charges that part of the data was false.

Burbank Area Activity Increases

Fairfax, Okla.—Five new operations were reported from the Burbank area of western Osage County late in the week. Bay Oil Company's Vaden 1, SW SW SE 14-26n-6e, was moving in machine; Lewis Production Company's Osage 1, NW NW SW 23-26n-6e; Enterprise Transit Company's Osage 1, SE SE NE 34-26n-6e; Osage 2, SE SW NE 34-26n-6e; and Osage 1, SE SW NW 35-26n-6e, were locations. The first two Enterprise Transit locations are on a lease for which a $301,000 bonus was paid on March 27, 1935, and the latter is on a $223,000 lease purchased on the same date.

Champlin Refining Company staked location for Osage 9, NW SE NW 16-24n-7e, and A. H. Kasishke, Inc., for Osage 14, NE SW NE 16-24n-7e, both in the Naval Reserve pool.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to April 5, 1935)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	24— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, Wk'lr	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and S.W. Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.85			9-29-33
Saxet	*.85			9-29-33
Mirando	*.80			9-29-33
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
SouthLouisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
	Below			
Iowa, Cameron Mds.	20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Grass Creek (Light)	*1.17			9-29-33
Big Muddy	*$1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Pondera	*.65			8-25-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.15			2- 1-35
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.08			5-26-34
California				
Signal Hill	14— .65	1¢	16— .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B., Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	26— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .83	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship)	33— 1.03	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

*All gravities—flat rate.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15—$ .65	2¢	16—$ .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway-Sunset, Elk Hills, Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*2.35			2- 4-35
Sw Pa. Pipe Line	*2.02			2- 4-35
Eureka Pipe Line	*1.97			2- 4-35
Buckeye Pipe Line	*1.87			2- 4-35
Corning Grade	*1.32			10- 2-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

Summary of Wells Completed in the United States
Week Ending March 30, 1935

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1935	Total Completions this date 1934
Alabama	...	...	...	...	.....	2	1
Arkansas	3	1	...	2	150	47	20
California	13	12	...	1	16,135	177	78
Colorado	...	...	...	...	.....	3	4
Illinois	...	...	...	...	.....	6	2
Indiana	...	...	...	...	.....	36	45
Kansas	31	20	1	10	8,175	315	221
Kentucky	...	...	...	...	.....	20	24
Louisiana	19	6	4	9	2,325	178	185
Michigan	5	3	1	1	3,665	75	104
Mississippi	...	...	...	...	.....	6	6
Montana	3	2	...	1	260	15	25
New Mexico	4	4	...	...	32,565	62	23
New York	...	...	...	...	.....	...	3
Ohio	20	6	9	5	67	347	217
Oklahoma	36	25	1	10	65,800	520	470
Pennsylvania	2	...	2	...	.....	32	72
Texas	297	220	14	63	812,740	2,735	2,212
Utah	...	...	...	...	.....	...	3
West Virginia	5	1	4	...	2	133	122
Wyoming	...	...	...	...	.....	7	6
Total this week	438	300	36	102	941,884	4,716	3,839
Total last week	363	253	27	83	863,157	4,278	3,589
Total this year	4,716	3,112	420	1,184	9,203,036	...	...

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24.
May 2, 1933	.....	Cut 19.	.....
May 9, 1933	Cut 20.	.....	.....
May 22, 1933	Up 10.	.....	.....
June 19, 1933	Up 10.	Up 19.	.....
June 26, 1933	Up 10.	.....	Up 9-12
July 6, 1933	Up 13.	Up 10.	.....
July 17, 1933	Up 15.	.....	.....
July 28, 1933	Up 15.	.....	.....
August 11, 1933	Up 10.	.....	.....
August 24, 1933	.....	Up 10.	.....
August 30, 1933	Up 15.	.....	.....
September 6, 1933	Up 10.	Up 10.	Up 15.
September 8, 1933	.....	Up 15.	.....
May 1, 1934	Up 10.	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25.	.....	.....
January 4, 1935	Up 15.	.....	.....
February 4, 1935	Up 15.	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Three percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

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They are designed for 6000 lbs. test with extremely large factors of safety, and have extra metal thickness to resist sand cutting and for shock service at high pressures.

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MANUFACTURING COMPANY
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REGISTERED U. S. PAT. OFF.

Keen Competition in Second Gulf Coast First Aid Contest

Houston.—The rules and regulations for the Second Gulf Coast First Aid Contest have been completed and compiled in a 27-page pamphlet. This contest, as was the initial one of last year, will be held at the Oil Equipment & Engineering Exposition from April 8 to 13, inclusive, and will be one of the outstanding events of the show. Every year shows an increasing interest in first aid work and in addition to improvements in the contests there has been greater activity in the work itself and a rapidly growing recognition of the true value of First Aid training to the petroleum industry. There now are more than 20,000 trained first aid men in the Gulf Coast territory.

Entries in the 1935 contest have already been made by a number of teams among which are included:

Shell Petroleum Corporation.
Empire Oil & Refining Company—Gladewater.
Magnolia Petroleum Company—Beaumont Division.
Louisiana & Arkansas Pipe Line Company—Gladewater.
Humble Oil & Refining Company—4 teams.
The Texas Company—6 teams.
United Gas Company—San Antonio.
Houston Gas & Fuel Company.
Freeport Sulphur Company.
Gulf Oil Company.
Phillips Petroleum Company—Bartlesville.
Republic Portland Cement Company—San Antonio.

The four teams entered by Humble Oil & Refining Company will be selected from 15 teams at an elimination contest which will be held at Tomball. The six teams of the Texas Company also will be selected by elimination contests to be held at Tulsa, Amarillo and locations on the Gulf Coast.

Information regarding the contest is being supplied to the judges by the Harris County Emergency Corps. Constructive cooperation in the arranging of the contest has been furnished by the U. S. Bureau of Mines, the Harris County Emergency Corps and the Accident Prevention Department of the American Petroleum Institute. Appreciation for this valuable assistance has been expressed by the Executive Committee which consists of the following members:

P. E. Keegan, chairman, Shell Petroleum Corporation, Houston.

G. O. Lockwood, Empire Companies, Bartlesville.

H. N. Blakeslee, American Petroleum Institute, Dallas.

R. E. Donovan, Standard Oil Company, (California), San Francisco.

J. J. Delahide, E. D. Bullard Company, Houston.

Theo. H. Felds, Harris County Emergency Corps, Houston.

R. B. Roaper, Humble Oil & Refining Company, Houston.

C. L. Hightower, United Gas System, Houston.

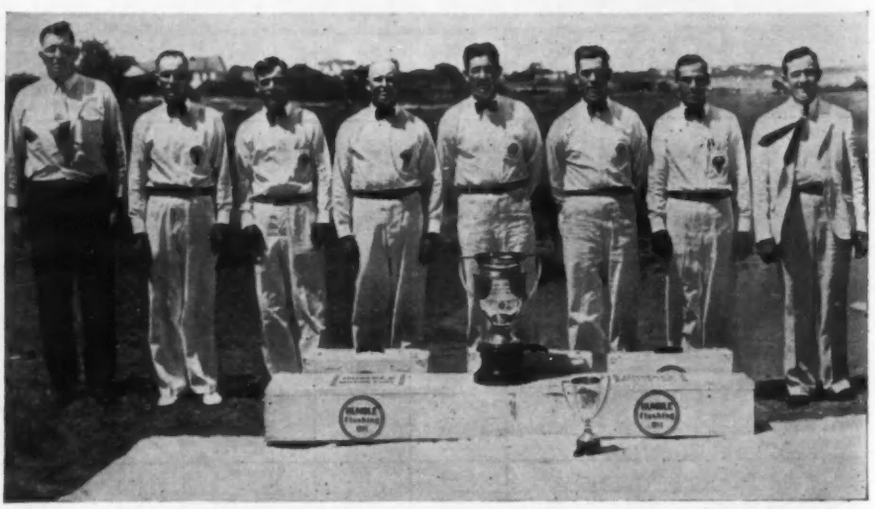
Claude Liles, Magnolia Petroleum Company, Beaumont.

C. A. Miller, The Texas Company, New York.

E. G. Lenzner, Oil Equipment & Engineering Exposition.

F. P. Wener, American Petroleum Company, Houston.

The executive committee also extends the same measure of appreciation to all donors of prizes and to the various committees who have made the holding of this meet possible.



Humble Oil & Refiining Company Production Department team from Sugarland, Texas, which won the championship last year.

Second Quarter Opens Favorably
(*Continued from page 10*)

watch outgoing shipments, and thus know if unauthorized production is being utilized. Having assembled evidence of illegal operations, the authorities can go into the courts and obtain injunctions to restrain the offending plants from continuing to operate. But plants that are enjoined and closed down commonly open up again under new names and resume operations. And furthermore, while one plant is being closed down, another springs up or appears on the scene through going from idleness into activity.

Another recourse for the state officials is to have a law-breaking refining company thrown into receivership, operations being thus placed in the hands of a receiver appointed by a court. That action is effective so far as the one illegally operated plant is concerned. But in this instance, too, the net gain for enforcement is often canceled, through springing up of another shady plant to take the place of that forced into receivership.

About 30 Plants Active

THERE are currently over 30 refineries in operation in and adjacent to the East Texas field. A few are operating only on legal crude. Over half a dozen are credited with using some illegal production along with legal crude. Nearly 20 are active but connected to no allowable whatever. In some instances the latter explain that they are using reclaimed oil—waste oil recovered from streams, ditches, or pits. In other cases, no explanations are offered, leaving the implication that the oil processed is strictly hot oil—and what of it? The present number of East Texas plants operating is about 50 percent greater than the number several weeks ago, when only about 20 were active.

Hot Oil Problem Still Not Solved

THE federal-state shipping control that is blocking movement of hot oil by rail is contributing greatly to the present relatively favorable markets and the current stability of the industry. But the hot oil problem has by no means been completely stamped out, and it appears destined to continue pestering the industry indefinitely. Always, in the four years since the East Texas field began to dominate the markets, there has been at least one remaining leak for hot oil. The one remaining leak now is the tank truck movement.

It begins to appear that before complete enforcement success can be achieved, the need of control will virtually have passed, through decline of the field's producing ability.

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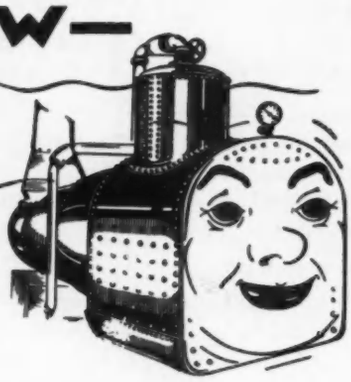

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Western Ness County To Be Further Explored

Ness City.—Glenn Cole & Company were moving in material for Tenny 1, NE NW SE Section 19-18s-25w, 13 miles west of here and two miles south of the discovery well in the old Aldrich pool in western Ness County. The operators have a solid block of approximately 6000 acres. Several major concerns have acreage in the area, among them Continental Oil Company which drilled the discovery well in the Aldrich pool about 5½ years ago. The pool is a one well pool the discovery well of which was completed at 4430 feet for an estimated 10 barrels of oil per hour. It has never had a market outlet and prior to the recent completion of the Shallow Water discovery well in Scott County, it was the most westerly oil production in the state.

Kay County Pool Extension Try Fails

Newkirk, Okla.—Bay Oil Company failed during the week to extend its new pool five miles east of here in north central Kay County when Curtis 1, NE NE NW 23-28n-3e, found only a remnant of the Skinner sand. Drilling was continued and top of the Mississippi chat encountered at 3132 feet. Operators drilled to 3142 feet and set 5 3/16-inch casing on top of the chat. It is a southwest diagonal offset to the discovery well which made 116 barrels initially supposedly from Skinner sand. Some difference of opinion exists as to the correct correlation of the producing sand.

Garfield County Test Abandoned

Billings, Okla.—Herndon Drilling Company et al's Allen 1, NE NE SW Section 35-24n-3w, 2½ miles southwest of here and one mile east of production in northeastern Garfield County, drilled sandy dolomite from 5080 to 5095 feet and was abandoned at the latter depth since correlations on the upper markers showed it to be running several hundred feet low. Its location was on the Nemaha Ridge trend between the Garber and Retta fields.

Oklahoma County Wildcat Near Top of Wilcox

Edmond, Okla.—Anderson-Kerr et al's Linn 1, SW SW NW Section 17-14n-2w, 3½ miles northeast of here in north central Oklahoma County, had Misener sand at 6000 feet, Hunton lime at 6012, Sylvan shale at 6047 feet and Viola lime at 6135 feet. It went into Simpson dense at 6170 feet and was drilling below 6225 feet in the dolomite.

Largest Edmond Pool Well Is Completed

Edmond, Okla.—Mid-Continent Petroleum Corporation's Young 2, SW SW NE 31-14n-3w, in the northern portion of the Edmond pool, four miles west of here in northwestern Oklahoma County, eclipsed anything heretofore completed in the pool when it made 3741 barrels on a four-hour test and was rated at 22,451 barrels for 24 hours. Top of the Wilcox sand was encountered at 6578 feet and drilled to 6694 feet. Operators bailed down but 1000 feet when the well started cleaning itself. During the first two hours it yielded 1150 and 1001 barrels respectively and was shut in for erection of additional tankage. On its potential gauge it yielded 940 barrels the first hour, 943 barrels the second hour, 934 barrels the third hour and 924 barrels the fourth hour. Gas was estimated at 27,500,000 cubic feet.

Two days earlier Marathon Oil Company's Dahl 3, NW NW SE 31-14n-3w, south offset to Young 2, bailed down 800 feet below the derrick floor and flowed 224 barrels the first 45 minutes. During the next eight hours it flowed 305, 300, 317, 315, 269, 295, 290, and 310 barrels, respectively. The last 30-minute gauge was 165 barrels, making a total of 2790 barrels in nine and one half hours. Wilcox sand was topped at 6620 and drilled to 6695 feet, a penetration of 75 feet compared to 116 in Mid-Continent's Young 2. On the 160 acres to the west of the Mid-Continent Young lease Continental Oil Company's Young 1, SE SE NW 31-14n-3w, topped Wilcox sand at 6632 feet, drilled to 6705 feet, bailed and started flowing at an estimated rate of 500 barrels per hour. It was immediately shut in to erect tankage and was due for completion late in the week.

Marathon Oil Company staked location for Dahl 4, NW NE SE 31-14n-3w, and for Dahl 5, SW SE SE of the same section. The latter is a west offset to Dahl 1 which was the first big well in the field. Mid-Continent Petroleum Corporation was digging pits for Young 3, SW SE NE 31-14n-3w, and Pure Oil Company was expected to stake location for Berquist 1, SW SW SE 30-14n-3w.

Results obtained in this pool continue to puzzle geologists and production men. Marathon Oil Company found top of the Wilcox sand at minus 5235 feet in Dahl 1, SE SE SE 31-14n-3w. It was rated at approximately 10,000 barrels. When Mid-Continent's Young 1, one half mile to the northwest, encountered the sand 155 feet lower, observers were skeptical of its possibilities. When completed it made over 14,000 barrels and was then the largest well in the pool. Mid-Continent's Young 2, the big completion of last week, is 49 feet lower than the same operator's Young 1, yet it is the larger of the two. Continental Oil Company's Young 1, only one location west, is another 48 feet lower.

Southwest Logan County Wildcat Looking Good

Navina, Okla.—Sinclair Prairie Oil Company and Slick-Urshel Oil Company's Koatsch 1, SW SW SW Section 23-15n-3w, wildcat test 4½ miles southeast of here in southwestern Logan County, topped Wilcox sand high at 6218 feet, cored from 6237 to 6244 feet and recovered seven feet of saturated sand. Further coring from 6244 to 6254 feet resulted in a recovery of 9½ feet, the last four feet of which was limestone. Base of the Wilcox sand was correlated at 6250 feet. Operators were to set casing at approximately 6218 feet on a porous lime. This is one of several deep tests which have been drilled in the southwestern portion of the county but it is the only one which has been high enough and had showings to indicate a producer.

Deepening Helps Crescent Pool Well

Crescent, Okla.—Even after the drilling of 24 wells in the Crescent pool near here in western Logan County operators are finding there is something yet to learn regarding production characteristics of the Wilcox sand. Several wells in the field have been small in the upper Wilcox and large producers in the lower while in some instances conditions are reversed. During the week The Texas Company completed deepening of Denny 3, NE NE SE 33-17n-4w. The well originally was completed early last month for approximately 2800 barrels in second Wilcox sand drilled to 6256 feet. It had declined to about 500 barrels per day capacity but upon deepening to 6274 feet production was boosted to 1710 barrels the first 24 hours.

Mid-Continent Petroleum Corporation's Campbell 1, C SE NE 33-17n-4w, did not make a well in the upper Wilcox sand from which most of the wells obtain their best production but was completed in second Wilcox at 6184 feet, only six feet in the sand. It is now being drilled deeper. Eason Oil Company's Katschor Lease 2, Well 4, NW NW SW 34-17n-4w, was completed during the week for 5522 barrels from upper Wilcox sand at 6183 to 6212 feet. It is less than a half mile from Mid-Continent's Campbell 1 which did not produce from the upper Wilcox. Stratigraphic variation is said to be responsible for the failure in certain spots to find production at depths of offsets or nearby wells.

Important Fitts South End Test Closely Watched

Ada, Okla.—Attention was focused during the week on E. H. Moore's Mitchell 1, NW SW NW 31-2n-7e, two locations south of production in the Fitts pool of southeastern Pontotoc County. This side of the structure is known to have been considerably disturbed by faulting and several geologists believe that as many as four parallel faults may intersect the southern edge of the fold. Apparently the Mitchell test is located on the south and upthrown side of one or more of these faults. The test cut a fault plane at a relatively shallow depth but had practically a normal geologic section until it reached the position where Mayes lime should have been found. At this point it was several hundred feet low based on a normal section. However, the test cut back through the apparently south dipping fault planes, missed Mayes lime, Woodford shale, Hunton lime, Sylvan shale and Viola lime, going into Bromide sand at some point near 4045 feet or about normal depth for this portion of the pool. The formation was cored from 4067 to 4071 feet, recovering three feet of sand which was slightly oil stained and yielded an oil odor. Casing was being run to set near top of the sand.

The apparent fault zone is an important question so far as future development of the pool is concerned. If production is found to the south of the surface expression of the zone or on its upthrow side, several hundred additional wells will be drilled. In event the faulted zone limits production along the entire southern edge of the field as it is now defined, future drilling would be limited largely to definition of the eastern productive limits, to inside locations or to exploration of the deeper or shallower zones.

Lucien May Get Mile Southeast Extension

Perry, Okla.—Stanolind Oil & Gas Company et al's Fuller 1, C SE SW Section 34-20n-2w, slightly over a mile southeast of production in the Lucien pool of southwestern Noble County, appeared to have extended that pool or to have proven the existence of a separate accumulation. A dolomite, apparently Simpson in age, was encountered at 4985 feet and drilled to 5016 feet where operators shut down to repair the engine with 1100 feet of oil in the hole. This test has approximately the same relative position to the axis of the Lucien structure as does Sinclair Prairie Oil Company's Cawood 1, C SW NW Section 27-20n-2w, which extended production one mile to the east several weeks ago.

Fitts, Polo and South Burbank Get Big Wells

Tulsa.—Twenty-five oil wells added 65,801 barrels to Oklahoma's reserve during the week when the Fitts pool of southeastern Pontotoc County yielded five wells rated at 55,148 barrels; the Polo pool of western Noble County, one well rated at 3528 barrels; and the South Burbank pool of western Osage County, one well rated at 3000 barrels; a total of 61,676 barrels from seven wells. Completion reports included one dry gas well with initial volume of one third million cubic feet, two abandoned locations and eight dry holes, a total of 36 completions which involved 81,637 feet of drilling including 246 feet in two old wells. Wildcat results were unimportant when one dry hole was completed at 1609 feet.

Activity in the newly extended drilling zone of the Oklahoma City pool, in the Fitts pool and the Naval Reserve and South Burbank pools of Osage County, placed those three counties in the new work lead with six first reports each. Okmulgee and Pottawatomie Counties were tied for second place with three starts each; Creek County had two; and Cotton, Greer, Marshall, Noble, Okfuskee, Pawnee and Seminole Counties, one each; a total of 37 first reports in 14 scattered counties.

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Oklahoma Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CREEK COUNTY—		
L. B. Jackson, Nolan 1, nw nw nw ne 2-17n-8e	40	1576
W. C. McBride, Inc., Klein 30, sw sw sw sw 8-18n-7e	18	2489
Ice Drilling Co., Morris 1, se se se nw 16-18n-8e	*	3505
JACKSON COUNTY—		
Harrell-Davis, Sneed 1, sw sw nw 1-1n-20w	*	1515
Buell & Morgay, Cole 1, ne ne ne nw 3-1n-20w	*	1601
Farris & Scheig, Cole 1, ne ne se se 5-1n-20w	*	1609
NOBLE COUNTY—		
The Texas Co., Voss 6, ne se se 28-22n-2w	3528	4858
OKFUSKEE COUNTY—		
Regal Oil Co., Douglas 12, ne sw ne ne 11-10n-11e	*	1631
OKMULGEE COUNTY—		
Steiger & Hazlett, Fields 2-A, cw½ sw ne 33-12n-14e	¶1/3	678
Summers, Roe 9, ne sw nw nw 16-15n-14e	25	880
OSAGE COUNTY—		
Barnsdall Oil Co., 25, se nw sw ne 30-21n-9e	96	386
Johnson Oil & Ref. Co. 2, cn½ nw se 30-21n-9e	*	346
Pure Oil Co. 4, se se nw ne 25-22n-7e (otd 2885)	267	2909
Continental Oil Co. & Sinclair Prairie Oil Co. 9, nw se se se 5-23n-9e	75	2157
Finance Oil Co., 27, cnl s½ n½ sw 19-23n-9e	1600	2496
Lewis et al, Whitehouse 3, nw sw sw 10-24n-7e	331	2546
Skelly Oil Co., 5, se sw se nw 28-24n-7e	325	2655
Western American Oil Co. 21, sw nw nw sw 4-24n-10e	4	1489
Midco Oil Co., Adlum 7, nw nw nw 10-25n-6e	3000	2740
J. H. Alexander, 4, sw nw sw sw 36-25n-11e	35	1657
PAWNEE COUNTY—		
Everett Oil Co., Edminston 2, ne sw sw se 30-21n-9e	15	317
PONTOTOC COUNTY—		
Burk-Greis, Chambers 1, ne ne nw 36-2n-6e	11,580	4408
Moore et al, Smith "B" 4, ne ne ne 36-2n-6e	3824	4333
Moore et al, Craddock 1, nw nw sw 29-2n-7e	14,952	4204
Carter Oil Co., Harden 5, se ne sw 30-2n-7e	12,372	4120
Richards 6, se nw se 30-2n-7e	12,420	4200
POTTAWATOMIE COUNTY—		
Magnolia Pet. Co., Williamette 1, sw sw ne 12-7n-4e	34	3928
Clark et al, Null 1-A, nw nw se 15-7n-4e	lcn.	abd.
Clark et al, Standridge 1-A, sw sw ne 15-7n-4e	lcn.	abd.
Barnsdall Oil Co., Hubbard 1, sw nw nw 29-8n-4e	901	4357
Vivian Oil Co., King 1, sw se nw 29-8n-4e (pb 4515)	*	4545
SEMINOLE COUNTY—		
Amerada Pet. Corp., Rodden 1, nw nw sw 13-6n-5e	301	3949
Crosbie, Knight 1, ne ne ne ne 13-6n-7e (pb 2275)	35	2825
STEPHENS COUNTY—		
Magnolia Pet. Co., Dillard 14, sw nw sw ne 2-2s-5w (otd 453)	5	675
George Pace, Gillworth B 6, ce½ ne ne nw 2-2s-8w	18	1616
W. J. McAllister, Lench 1-A, se se se nw 11-2s-8w	*	1775

*Failures; †Junked; ¶Mil. cu. ft. gas.

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Kansas Development Below Average Last Week

Wichita, Kans.—The only new operations in Reno County were in the Burrton pool where four first reports placed the county in the lead in new work. Ellsworth and Greenwood Counties, were second on the list with three first reports each; Barber, Butler, McPherson and Rice Counties had two each; and Barton, Harvey, Rush, Russell, Sedgwick and Sumner Counties, one each; a total of 24 first reports from 13 counties compared to 47 from 14 counties the preceding week.

Completion of only two wells, both smaller than the average, in the Burrton pool was responsible for the fact that initial production dropped to the lowest point it has reached since the week ending January 5, 1935. Twenty oil wells accounted for only 8177 barrels of initial production, an average of 406 barrels per well. One dry gas well with initial volume of three million cubic feet, an abandoned rig and nine dry holes brought the completion total to 31 which involved 79,298 feet of drilling including 137 feet in four old wells. The wildcat list was decreased by six operations, one abandoned rig and five dry holes which involved 18,344 feet of drilling.

Western Beckham County Attracts Attention

Sayre, Okla.—Fred Coogan et al's Shelton 1, SW SW SW Section 33-10n-25w, 12 miles west of here in western Beckham County, hit a dolomitic streak at 3425 feet which became more porous at 3450 feet and yielded a slight showing of oil and gas in the cuttings. It was drilling ahead below 3505 feet in dense dolomite with no increase in the showing. This test is of particular interest since it is the westernmost drilling well in the state and because of its location on the north slope of the Wichita-Amarillo Mountains, adjacent to the Anadarko Basin.

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Seminole County Discovery Well Drilling Ahead

Konawa, Okla.—The Seminole district was assured of a new pool during the week as Sovereign Drilling Corporation and Atlantic Oil Producing Company drilled ahead with a hole full of oil from Simpson dolomite in Thomas 1, NW NW SE Section 8-6n-7e, five miles east of here and four miles west of the Sasakwa pool in eastern Seminole County. It is 4½ miles southeast of production in the Little River pool on the Seminole City, Bowlegs, Little River trend. Top of Simpson dense was encountered at 3875 feet, the dolomite at 3880 feet and at 3918 feet it started slopping over with 32 feet of cavings in the hole. Cleaned out to 3900 feet it flowed 100 barrels in 25 minutes but deeper drilling does not seem to have helped. It is thought by some that porous unsaturated streaks in the dolomite may be robbing the hole.

Nicoma Park Extension Well Flowing by Heads

Oklahoma City.—Marathon Oil Company's Ball 2, NW SW NE Section 19-12n-1w, in the Nicoma Park area, seven miles east of here in eastern Oklahoma County, was producing at the rate of approximately 35 barrels per day flowing by heads from sand topped at 6128 and drilled to 6160 feet in shale. The discovery well, completed several years ago, so far has drained on the area alone since two previous tests resulted in dry holes. Some geologists are correlating the sand as Prue but it has been familiarly known as the checken farm sand since the Nicoma Park area is a poultry raising area.

Britton Townsite Play Has New Start

Oklahoma City.—R. Carl Larkin et al's Brobine 1, NW NW NE Section 33-13n-5w, three quarters of a mile east of Britton townsite and 3½ miles north of here, set 140 feet of 12½-inch surface pipe and was drilling below 470 feet after being a rig since early in January.

Harvey County Gets New Wildcat Test

Newton, Kansas.—D. R. Lauck et al have staked location for W. L. Boller 1, SW SW SW Section 29-24s-1e, a rank wildcat test 6½ miles south of here in southern Harvey County. It is seven miles north of Valley Center and three miles northwest of the Goodrich pool on a structure which was core drilled several years ago by the old Marland Oil Company.

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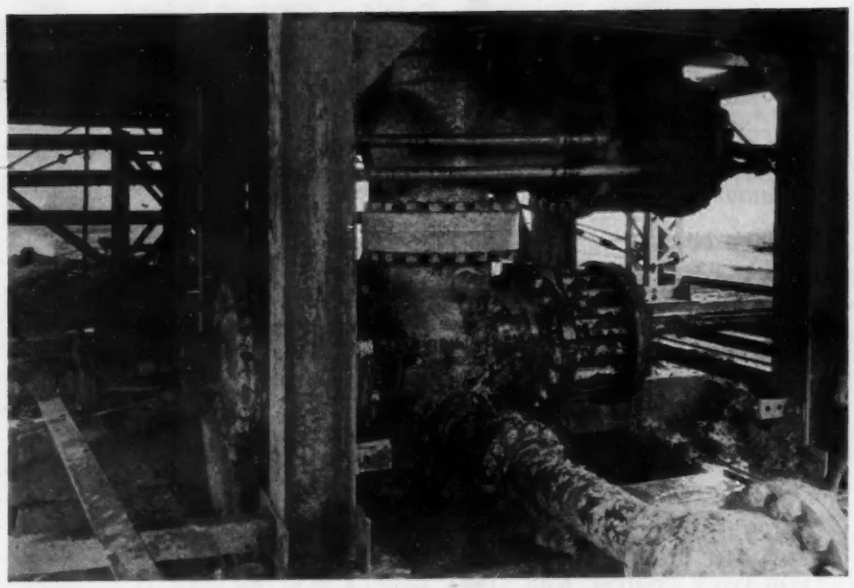

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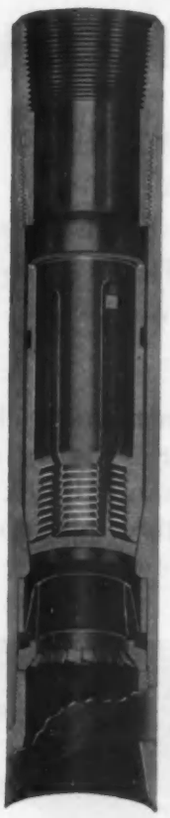

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New Ellsworth County Discovery Getting Outlet

Raymond, Kansas.—Carter Oil Company, Shell Petroleum Corporation and Empire Oil & Refining Company's Tuebner 1, SE SE NW Section 26-17s-9w, new wildcat strike 1½ miles south of the Lorraine pool in southwestern Ellsworth County, is being given a connection by Standish Pipe Line Company. The Phillips Petroleum Company subsidiary which recently acquired the assets of Central Kansas Pipe Line Company, is laying a four-inch lateral from its Heiken station, a distance of 4½ miles to the well. The well was standing full of oil from siliceous lime drilled to 3179 feet. Potential tests are not to be made until the connection is completed.

Kansas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BUTLER COUNTY—		
Paulhamus, Creed 1, se nw sw 16-29s-4e	*	1881
ELK COUNTY—		
Superior Oil Co., Rorick 9, se nw se se 22-31s-10e (pb 1344)	5	1430
ELLSWORTH COUNTY—		
Atlantic Oil Co., Janssen 1, sw se nw 13-17s-9w	*	3246
Bradley & Scanlon, Nienke 1, cn½ ne nw nw 13-17s-9w	¶	2206
GREENWOOD COUNTY—		
Young & Reynclds, Storrer 1, ne ne sw 7-22s-13e	150	1114
HARVEY COUNTY—		
Marathon Oil Co., Duerkson 4, ne se ne 19-22s-3w (otd 3492)	350	3516
Marathon Oil Co., Duerkson 6, se ne ne 19-22s-3w (otd 3485)	30	3515
MARION COUNTY—		
Youker et al, Bernhardt 1, cse nw 7-18s-4e	*	2419
McPHERSON COUNTY—		
Tom Palmer, R. W. Lundberg 1, nw nw ne 30-18s-2w	287	2296
Shell Pet. Corp., Decker 7, nw nw se 11-19s-2w	385	3368
Carey & Miller, Husband 1, se se nw 6-19s-3w	rig.	abd.
NESS COUNTY—		
Texas Oil Co. & Gypsy Oil Co., Goodman 1, csw sw 21-19s-23w	*	5052
RENO COUNTY—		
Johnson & Carey et al, Dyck 1, se ne se 35-22s-5w	*	4070
Olson Oil Co. & Shell Pet. Corp., Duckworth 4, sw sw ne 23-23s-4w	930	3613
Tidal Oil Co., Grandon 1, se se sw 34-23s-4w	1053	3603
RICE COUNTY—		
Lebow et al, Doll 1, se se sw 20-19s-9w (otd 3245)	563	3257
Empire Oil & Ref. Co., Tournear 1, nw se ne 29-19s-9w	538	3214
Sinclair Prairie Oil Co., Wallace 2, se ne sw 29-19s-9w	747	3248
Carpenter, Reinet 5-B, sw sw se 3-21s-6w	491	3418
RUSSELL COUNTY—		
Tom Palmer, Killion 6, nw sw se nw 27-13s-14w	528	3292
Aylward et al, Holland 1, ne ne ne 28-13s-14w (otd 3204)	140	3275
Hartman & Blair, Furthmeyer 1, ne ne ne 1-14s-14w	*	3335
Western Exploration Co., Durr 1, sw nw sw 31-15s-12w	*	3423
Sinclair Prairie Oil Co., Hefferman 2, sw nw ne 26-15s-13w	1150	3265
Hartman & Blair, Krause 1, ne nw nw 5-15s-15w	*	3468
The Texas Co., Jacobs 6, se nw sw 31-12s-15w	145	3040
SEDGWICK COUNTY—		
Corbett & Evans, Boling 1-A, ne ne nw sw 6-26s-1e	50	2686
Sovereign Oil Co., Scherger 3, se nw sw nw 6-26s-1e	40	2682
Spencer, Owens 1, se ne sw 17-28s-1e	*	3188
Magnolia Pet. Co., Robbins 6, ne nw nw se 20-28s-1e	502	3109
SUMNER COUNTY—		
Continental Oil Co. & Shawver, Norrish 3, se ne se 27-34s-2e	33	3495

*Failures; †Junked; ¶Million cu. ft. gas.

Northeastern Kansas Wildcat Gets Under Way

Topeka, Kansas.—O'Neil et al have spudded George Bame 1, SW SW SE Section 9-14n-17e, a wildcat test 20 miles southeast of here in northeastern Osage County. It is scheduled to test Wilcox sand and is the first test to be drilled in the area in several years. The test is located on a 5000-acre block assembled by E. R. Minteer of Oklahoma City on what is known as the Rickland structure. J. V. Howell of Ponca City, Oklahoma, did the geologic work upon which the block was taken.

World's Deepest Test Reaches 12,231 Feet

San Angelo, Texas.—Record depth drilling honors held by Gulf Production Company's J. T. McElroy 103, Upton County, were extended 854 feet below the previous record held by a test in California when the former reached a depth of 12,231 feet on April 5. McElroy 103 made 124 feet of new hole the past week, and is reported to have authorization to proceed to 12,500 feet. However, it is believed that the company will undertake to ascertain the maximum depth that the present type of heavy-duty rotary rig and drill pipe can attain. Except for frequent intervals of hard chert formation interspersed with shale and lime, the company manned rig is having no unusual difficulty in cutting a hole 6 11/16-inch diameter at the greatest depth heretofore penetrated. Fresh water is used for circulation, and no trace of oil or gas has been reported although the test is drilling in the lower section of the Ordovician lime, the projected goal.

A runner-up for record depth in West Texas was ordered abandoned as a failure the past week when Skelly Oil Company and Associated Unit Holders' University-Grayson 1-3, located in southern Reagan County, failed to develop production from the Ordovician lime after drilling to 9925 feet. Top of Cisco was called at 9174 feet, and first Simpson at 9400 feet, with an elevation of 2891 feet.

The Glasscock County test of Loffland Brothers, John I. Moore et al on the McDowell ranch had drilled to 9920 feet.

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The **GUIBERSON TUBING SPIDER**, shown above, is the latest addition to the **GUIBERSON** line. Its adjustable guide head is its most notable feature. The guide head aligns the tubing in the center of the spider's bore, so that slips, which are operated by the weighted lever, drop naturally into correct position without forcing and without necessity of placing the operator's hands near the slips. High speed — all steel — 2 weights. As nearly automatic as a spider can be made. All desirable features assembled in one spider.

The **GUIBERSON CONTROL-HEAD PACKER**, extreme left, offers the special feature of ability to run in against heavy flows, as the oil and gas pass *through* the packer until the setting operation closes the valve at top.

The **GUIBERSON "TYPE E" TUBING CATCHER** represents our perfected model of the pioneer automatic tubing catcher. This newest model is compact, has maximum slip area for carrying excessive loads in modern deep wells, and can be equipped with our new shoe-type anchor, as here shown. The cantilever springs of this anchor never come in contact with casing. Contact is made by hard-faced durable shoes.

The **GUIBERSON SWAB** offers the correct patented principle of flexible cups, instead of the incorrect principle of tight-fitting solid rubbers. These flexible cups yield readily to irregularities in casing walls when running in; yet the fluid pressure causes them to maintain maximum contact and lift a maximum load when coming out.

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Third Camp Hill Well Is Showing

Palestine, Texas.—Recovery of oil-stained sand in the Sub-Clarksville horizon by Gulf Production Company's L. B. Ross 1, third deep test for the Camp Hill structure, Anderson County, after logging base of Austin chalk at 5130 feet and coring to 5136½ feet gives promise of yielding a second producer for the area. Operations were halted at the above depth to run formation tester late last week, and it is understood that the company will set casing in the event of a favorable showing. The test is about one half mile west by south of the company's discovery well on the Davey-Royall tract, which is flowing about 160 barrels of oil daily from the Sub-Clarksville sand member of the Eagleford shale. Both tests topped the Sub-Clarksville at a minus depth of about 4485 feet, indicating a flattening of the structure to the southwest.

Favoring the southwest trend, Gulf Production Company is drilling Maddox 1, SEc of David Stilts Survey, about one mile southwest of L. B. Ross 1, and logged first Pecan chalk at 3970 feet.

The company's Mary J. Ross 1, about one mile south of the discovery well, has been a disappointment in the Sub-Clarksville and Woodbine sand zones in spite of it being about 300 feet higher on structure. A drill stem test was under way at 5309 feet, according to late reports, or 560 feet below the top of the Woodbine.

Rated among the most productive oil wells in the Cayuga field, Joe A. Worsham et al's W. F. Wathen 1 advanced production about 9600 feet to the north in recording an initial flow of 569 barrels of oil during first 24-hour gauge flowing through 20/64-inch choke, with

East Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Acme Oil Co., M. L. Thompson 4 (10-ac)	11,000	3735
Amerada-Deep Rock, Stovall 19 (193-86-ac)	6200	3662
Atlantic, L. J. Pinkston 14-A (87-ac)	8400	3665
Pinkston-Wofford 11-D (108-ac)	7600	3640
Pinkston-Wofford 12-D (108-ac)	5400	3625
R. A. Bryant et al, Redwine 2-A-B (3-ac)	100	3565
Cockburn & Boase, Inc., A. Green 12 (37.3-ac)	5600	3805
O. Currin et al, Frederick 1 (11.41-ac)	500	3622
Eagle Drl. Co., V. Williams & Lacy 1 (12½-ac)	*	3654
Ralph E. Fair, Inc., B. F. Maxwell 16 (87.41-ac)	7000	3700
G.B.R. Oil Corp., L. Harmon 13 (26.87-ac)	7100	3822
Gulf, A. H. Rayford 8 (59.87-ac)	9000	3746
Humble, W. B. Kee 13 (95.38-ac)	10,000	3764
M. A. Neal 3 (64.67-ac)	3000	3737
Hunt Prod. Co., C. D. Ashby 12-C (99-ac)	500	3595
Jenkins Oil Corp., Henson 2 (10-ac)	500	3600
T. A. Johnson & John Owens, J. Jackson 9 (50-ac)	9100	3755
J. D. Kugle & A. L. Slaughter, Maxwell 2-B	700	3603
Magnolia, Currin Barksdale 5 (15-ac)	7100	3734
Roy Loosier 17 (137.7-ac)	10,400	3724
J. R. Wright 27 (166-ac)	12,000	3665
M. H. McMurrey, Tr., G. A. Turner 12 (83-ac)	5200	3759
J. E. Powers & B. V. Thompson, E. E. Moores 1	3000	3697
Sells Pet., J. A. St. Clair 4 (84.83-ac)	500	3761
Sinclair Prairie, Mayfield 31-A (374.74-ac)	9500	3753
Mayfield 35-A (374.74-ac)	9000	3803
Mayfield 37-A (374.74-ac)	10,000	3817
Mayfield 38-A (374.74-ac)	12,000	3819
Mayfield 40-A (374.74-ac)	9500	3842
F. B. Wilson 18 (124-ac)	10,750	3643
A. L. Slaughter & Chalk, Frederick 4 (17.8-ac)	120	3600
E. M. Thomasson Holding Co., S. S. Cook 2 (10-ac)	5400	3806
M. L. Thompson 5 (10-ac)	5800	3736
Tide Water, Morgan Hale 3-B (23.42-ac)	7500	3630
Weaver-Perry Oil Corp., T. O. Wright 9 (12-ac)	8700	3692
Woodley Pet. Co., M. M. McMillan 7 (40-ac)	8500	3719
KILGORE AREA—		
Atlantic, W. J. Brightwell 16 (96.4-ac)	9500	3632
Bay Oil Corp., W. Smith 4 (19½-ac)	9300	3558
Brothers Oil Co. (J. O. Griffith), S. E. Brox 2 (10-ac)	9600	3710
Devonian & Gulf, Motley 35 (442.1-ac)	10,000	3739
Empire, A. A. Lockhart 7 (33¼-ac)	9000	3646
Otto Lockhart 10 (75.11-ac)	7500	3560
R. W. Fair & Thompson, D. Carr 5-B (55-ac)	5600	3515
Geir Bros.-Thos. I. Underwood, M. E. Minor 3 (30½-ac)	8500	3716
Gulf, Hosea Baton 5 (56.73-ac)	250	3638
S. Hilburn 75-B	7000	3591
A. Muckelroy 23 (152.05-ac)	8000	3597
Humble, S. S. Laird 70-B (568.53-ac)	500	3570
H. Sexton 9-C (84.4-ac)	7500	3736
Roger Lacy et al, Adkins 5	†	3665
Magnolia, Nat Bean 11 (103.29-ac)	500	3595
McAlester Fuel Co., Roy Laird 1 (70/100-ac)	9000	3650
Navarro Oil Co., R. N. Brightwell 15 (113.08-ac)	8400	3635
Virgil J. Pearson-Joe E. Kemp, A. K. Young 1 (½-ac)	2000	3598
Albert Plummer et al, J. R. Beall 6 (79-ac)	4000	3660
Rozel Oil Corp., Sam Williams 4-B (131.6-ac)	5000	3663
Shell, M. H. Bivins 9-B (90.87-ac)	7200	3662
J. B. Watson 45 (385.2-ac)	10,000	3611
J. B. Watson 50 (385.2-ac)	6500	3650
Sinclair Prairie, S. G. Andrews 18 (200-ac)	8000	3455
S. G. Andrews 19 (200-ac)	6000	3490
S. G. Andrews 20 (200-ac)	6200	3470
S. G. Andrews 21 (200-ac)	6300	3470
A. A. King 47-B, Tr. No. 1 (337.6-ac)	10,000	3510
A. A. King 48-B, Tr. No. 1 (337.6-ac)	9600	3490
A. A. King 49-B, Tr. No. 1 (337.6-ac)	10,000	3485
A. A. King 50-B, Tr. No. 1 (337.6-ac)	9500	3485
A. A. King 51-B, Tr. No. 1 (337.6-ac)	10,000	3490
A. A. King 54-B, Tr. No. 1 (337.6-ac)	9800	3485
A. A. Lockhart 19 (133.12-ac)	7000	3697
Jas. T. Smith et al, L. B. Morse 3 (3.11-ac)	8800	3618
Stantex Pet. Co., L. B. Morse 6 (11.28-ac)	8800	3625
Stanolind, N. Radford 2 (19½-ac)	8000	3591
Stanolind-Noble & Co., J. R. Beall 9 (80.28-ac)	6000	3659
Texas Co., W. T. Chappell 6 (84.37-ac)	9300	3705
LONGVIEW AREA—		
Amada Pet. Co., D. L. Magrill 8 (45-ac)	9500	3698
Arkansas G.&F. Co., W. E. Bolton 4-A (56.66-ac)	5000	3513
S. G. Smith 5-A (60.15-ac)	11,000	3529
Atlantic, G. A. Porter 16 (109.23-ac)	9400	3672
Jas. Wilson 13 (100-ac)	9800	3633
Canadian Oil Prod. Co., J. A. Whitaker 5 (7.62-ac)	11,000	3564
R. L. Clark & J. B. Cowden, J. M. Evers 2 (55-ac)	1500	3816
L. C. Collins-Wolf & Gray, C. Fisher-Shell 5 (134.67-ac)	6000	3431
Ed. B. Cox & Jake Hamon, E. Lacy 11 (50-ac)	11,500	3552
Dillard Oil Co., W. E. Jones 4 (20.72-ac)	12,000	3658
Gulf, J. C. Judge 67 (518.3-ac)	6200	3511
Lacy-Snider 12 (107.53-ac)	8400	3597
W. A. Ray 13 (913.73-ac)	5500	3618
Magnolia, W. L. Fuller 5 (50-ac)	5800	3693
J. C. McKinley 6 (41.36-ac)	7600	3665
R. B. White 19 (81-ac)	10,000	3521
Sabinas Oil Corp., J. W. Falvey 5-B (30-ac)	9700	3705
Selby O&G Co.-Lewis Prod. Co., Snavely 18-A (214½-ac)	5000	3606
Shasta Oil Co., E. G. Richey 6-B (23.9-ac)	9600	3570
Simms-Frank Buttram, Nicholson 16 (800-ac)	6500	3634
Sinclair Prairie, J. W. Akin 13-A-B (100-ac)	10,400	3610
M. Moncrief 47 (307.7-ac)	12,000	3610
M. Moncrief 48 (307.7-ac)	11,000	3635
Stanolind-Falcon Co., C. B. Everetts 3-C (59.46-ac)	6000	3582
Stanolind-Simms, Fonville 9 (100-ac)	10,500	3559
Sun, M. C. Satterwhite 12 (82.7-ac)	7500	3633
Sun-Texas Seaboard, J. W. Akin 18 (163-ac)	11,300	3593
Allie H. Tarver et al, J. W. Free 3 (28-ac)	10,000	3680
Urban Oil Co., W. M. Phillips 11 (70.93-ac)	9000	3654
Yount-Lee, M. M. Custer 7 (75.34-ac)	5000	3557
Stuckey-Thrasher 15 (80-ac)	9000	3586
ANDERSON COUNTY (Cayuga field)—		
Joe A. Worsham et al, W. F. Wathen 1 (80-ac)	3600	4091
VAN ZANDT COUNTY (Van field)—		
A. J. Delcambre et al, A. Crim 2	5	1327
Pure Oil Co., Frank Blackstock 5 (40-ac)	100	2917
I. D. Miller 9 (60-ac)	300	2957
CHEROKEE COUNTY—		
E. M. Thomason & Co., W. J. Addis 1	†	5136
HILL COUNTY—		
Humble, M. Holderman 1	*	3398
SMITH COUNTY—		
Peveto & Howze, F. J. Watson 1	*	5368
HARRISON COUNTY—		
R. C. Payne, W. C. Lowery 1, E. D. Spain sur	†	4003

*Failures; †Junked; ¶Million cu. ft. gas.

420 pounds pressure on tubing and 600 pounds on casing. It was drilled to 4091 feet, or 3767 feet below sea level.

Tide Water Oil Company and Texas Seaboard Oil Company's M. H. Sullenberger 3, located in the southwest sector and 550 feet north by west of an oil producer in the Trinity River bed, failed to strike oil sand in drilling to 4036 feet, or 3777 feet below sea level. A big gasser is assured from the upper section of the Woodbine, and the well has been cased with 5 3/16-inch pipe to complete for gas production. The hole was carried to the danger zone on bottom hole water in trying to make an oil producer.

Definite location has been made by Hunt Production Company, Tyler, for the drilling of a test on the Slocum structure, southern Anderson County, in connection with acreage assignments reported last week as having been made by Pure Oil Company and others. Sun Oil Company will participate in the project. Location has been made on the Mrs. Alice Scott 300-acre tract, Jas. Ferguson Survey, about 1000 feet southeast of 5501-foot dry hole drilled in the northwest corner of the tract by Byrd-Frost, Inc. and Stanolind Oil & Gas Company.

Three additional wildcats are in prospect for Van Zandt County. The Monterrey Oil Company, Wichita Falls, has made location to drill S. E. Cox 1 in the SWc of 67-acre tract, J. Wilson Survey. O'Byrne and others plan to drill on the south line of the county about 2¼ miles southeast of Martin Mills, having made tentative location on the J. D. Daniels 115-acre tract, W. R. Flowers Survey. Blackwell Oil & Gas Company and others are reported to be concluding arrangements to drill a test about 2½ miles southeast of Van and on the Mrs. C. H. Browning 100-acre tract, J. P. Tackett Survey. Location is to be near a 3287-foot failure drilled in September, 1932, by the Daisy Oil & Gas Company.

East Texas Completions Reach Peak for Year

Tyler, Texas.—A new record number of completions for the current year was established by the East Texas field last week in reporting a total of 106, representing 104 oil producers, one dry hole and a test junked while in process of completion. This high mark is destined to stand for a period, as Sinclair Prairie Oil Company in completing 20 new wells during the week is winding up its major drilling campaign for the time being. The company abruptly halted its projected development program, involving about 150 additional tests, on March 21, but permitted contractors to proceed with the completion of about 50 tests that had commenced drilling at the time of the shut-down order.

Officials of Sinclair Prairie Oil Company announced that the shut-down order is to be temporary. No explanation has been given as to why the scheduled new drilling has been called off, as the work was slated to take place on large leases that have not been developed in proportion to the average well density for the field.

Delta Drilling Company's Hamilton 1, Upshur County, is flowing 25 barrels per hour through a quarter-inch choke. It is a three quarter mile extension and jumps some dry holes in the East Texas field.

Effective April 1 the individual well allowable was cut from 3.6 to 3.45 percent of the rated hourly flow, causing the output of the field to drop from 452,678 to 435,680 barrels daily. The field started the new month off with 16,590 wells, including 2649 classed as marginal producers, rated at 12,364,298 barrels per hour. Rated hourly flow of the wells is based on the production performance of about 50 key wells scattered over the structure. Wells must be rated above 579 barrels per hour to avoid being classed as marginal producers, which are assigned a top production quota of 20 barrels daily.

Major companies are not making materials gains in stepping up their average well density to a comparative level with the independents, who are minority owners of productive acreage. Even with an unusual number of completions the past week the majors accounted for only 59 of the total.

Sun Builds Employee Recreational Building

Kilgore, Texas.—A recreational building designed to enable its field employes to stage dances, shows and indoor athletic contests after working hours has been provided by Sun Oil Company. Formal opening of the structure, which has an outside width of 80 feet and a length of 130 feet with a seating capacity of 600, was held on March 20.

The company turned the structure over to an organization formed by the production and pipe line workmen to be known as Sun East Texas Recreational Club. Membership is restricted to company employes. The building is on the company's Hilburn-Loyd lease, near Kilgore and at the mid-way section of the East Texas field.

Activities of Sun East Texas Recreational Club are guided by a 12-member board of directors. The personnel of the board, includes three representatives from each of the three production districts in the field, and three from the pipe line division. Selection of officers was left to this body, and are as follows: J. E. Dyer, president; Chas. Pinkner, Geo. T. Kean and S. B. Wilder, vice presidents; and D. C. Endom, secretary-treasurer. Including the above, the board is comprised of John M. Sweeney, P. M. Herndon, Thurman Greer, R. P. Smith, O. P. Cunningham, H. C. DeWitt, J. E. Woodall and Ray Morehart. Board of governors for the club includes, G. E. Sweeney, D. B. Kiniry and B. M. Givens, production superintendents in each of the districts, and W. E. Soles, pipe line superintendent.

Large Wheeler County Wells, Extension Completed

Pampa, Texas.—Completion of big wells in western Wheeler County has become a routine matter with Panhandle operators, and six wells added the past week ranged from 1490 to 3622 barrels on initial gauges from the 2500-foot granite wash horizon. These prolific wells sustain a sharp decline in crude yield while official open flow potential gauges are taken by the field staff of the Railroad Commission. A maximum of five days open flow is permitted in establishing potential ratings, if pipe line or storage facilities are obtainable, thus enabling the owners of unusually large wells to nearly amortize the cost of their wells immediately upon completion.

Operators in the less prolific and older sections of the Texas Panhandle are protesting the alleged inequalities brought about through the failure of the commission to take into consideration the rapid drop in potential flow of these western Wheeler County wells after being on production for several months. The original potential rating becomes frozen for an indefinite period, thereby enabling the owners of such wells to command a high production quota at the expense of less productive wells.

The district was credited with an open flow potential of 366,873 barrels on April 1, with 2243 wells restricted to 58,800 barrels daily, or an average of 26.2 barrels per well daily. These figures exclude production in Moore County, which receives a separate allowable of 1500 barrels daily. Wheeler County's 182 completed wells were credited with a potential of 96,781 barrels, and beginning April 1 these wells were allowed to produce 9350 barrels daily, or an average of 51 barrels daily per well. Wheeler County has 44 marginal wells, with a combined allowable of 3155 barrels daily, while the 138 remaining wells that are subject to proration are allowed to produce 6195 barrels daily, or an average of 51 barrels per well, daily.

Rapid rise in the potential rating of the district has made it necessary to prorate all non-marginal wells to 6.62 percent of their potential that is in excess of the base, or marginal well quota of 20 barrels daily, according to April 1 proration schedule prepared by E. L. Green, Jr., deputy supervisor in charge of proration. This factor permits a 4014 barrel producer in Wheeler County to earn an allowable of 284 barrels daily.

Prolific production in western Wheeler County was extended to the southeast through the completion of Smith Bros. Refining Company's Johnson 1, NWc NW¼ Section 34, Block 24, H. & G. N. Ry. Survey, with a potential rating of 1566 barrels daily from granite wash at 2504-2510 feet. It earned an allowable of 122 barrels daily. The well gauged 2180 barrels the first 24 hours, and on the fourth day produced 1372 barrels. C. D. Miller and Huselby's fee 1, involving a 2½-acre school tract in the NWc Section 49, Block 24, received an allowable of 138 barrels by averaging 1807 barrels daily on five-day open flow gauge from granite wash at 2543 feet. Initial flow was placed at 2152 barrels, and on the fifth day the production declined to 1530 barrels. The Texas Company's P. M. Keller 8, one location north of the SWc NW¼ Section 48, gauged 2165 barrels of oil during first 11 hours at 2526 feet, and was rated at 3622 barrels daily, with an allowable of 258 barrels. Champlin Refining scored its second large producer on the Thomas Edes 80-acre tract in completing Edes 2, NEc E½ SE¼ Section 49, Block 24, rated at 2008 barrels daily at 2552 feet, with an allowable of 152 barrels. The initial gauge amounted to 2604 barrels, and on the fifth day the flow had declined to 1685 barrels.

Semi-wildcat territory in southeastern Wheeler County offers an oil producer of some importance through the testing of Triangle Oil Company's O. W. Stewart 1, SWc SW¼ NW¼ Section 73, Block 13, H. & G. N. Survey, in granite wash formation at 2133 feet. Preliminary reports indicate the oil flow is about 80 barrels daily with 9,000,000 cubic feet of gas. It is about 60 feet higher on structure than a recent failure drilled about one mile to the southeast.

The northeast extension section of the Dumas-Sunray field, Moore County, was partially defined to the north when Sunray Oil Company's C. R. Jones 3-A, two locations north of the SWc Section 164, Block 3-T, T. & N. O. Ry Survey, failed to encounter oil production in drilling into salt water at 3518 feet and at 3615-36 feet. It will be plugged back, with assurance of a commercial gas producer in the upper lime.

Plains Holding Company has acquired a drilling block from the Lee Bivins Estate's ranch in Sherman County for the drilling of a 3650-foot test. Location has been made in the SWc Section 35, Block 2, G. H. & H. Ry. Survey,

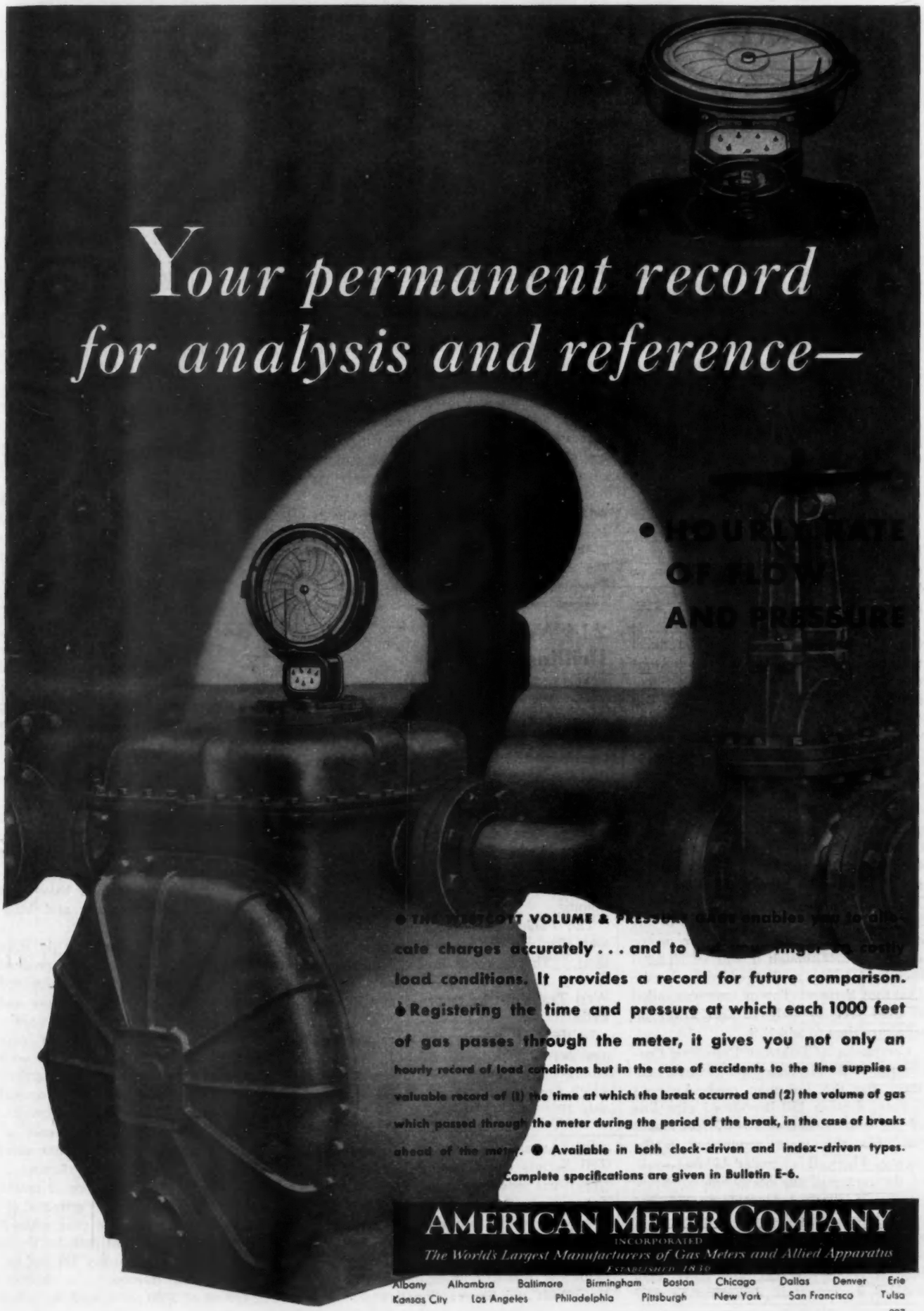
The Panhandle added 16 oil producers and five gassers the past week, and no dry holes. An aggregate of 19,675 barrels of oil and 159,300,000 cubic feet of gas production was credited to these 21 completions.

Semi-Wildcat Producer Found in Cooke County

Wichita Falls, Texas.—Efforts to restore Cooke County to its former status of being one of the active development centers in North Texas met with some success the past week when Bridwell Oil Company's A. W. Trew 1, a semi-wildcat, pumped and flowed 150 barrels of oil in 10 hours after treating lime at 1485 feet with 1000 gallons of acid solution. Sand and sandy-lime showing oil below 1130 feet was shut off in cementing 4¾-inch pipe on top of lime at 1475 feet. The well is located 1260 feet south and 990 feet west of the NEc of I. S. Fields Survey, A-388, and it extends production about 5000 feet to the southeast. It is about 8000 feet northwest of the Ruwaldt-Andress area. A number of important extensions and wildcat strikes have been made in the county in recent months.

The Falls County School Lands district in southern Archer County scored a 2500-foot extension through the completion of Perkins-Cullum Oil Company's Falls 155, near NWc Block 11, Abstract 130, with a potential rating of 800 barrels daily flowing and swabbing from saturated lime at 1161-1175 feet. The oil zone was shot with 40 quarts of nitro then treated with 2000 gallons of acid solution.

Acid treatment was directly responsible for the addition of two deep producers in Young County. In the north central part of the county, Pitzer & West, Breckenridge operators, and Simms Oil Company's Irene Gaithright 1, center of northwest 80-acre unit, T. E. & L. Company Survey No. 607, responded to treatment with 3000 gallons of acid solution with a flow of 70 barrels the first 1½ hours, then ceased flowing. Pumping equipment has been ordered installed.



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Important Strikes Made in Andrews and Crane Counties

San Angelo, Texas.—New life was injected into two sparsely explored oil areas in Andrews and Crane counties the past week through the completion of flowing wells that materially enhance the importance of each. The Gulf-Waddell pool, situated in northern Crane County, furnished a surprise completion when Gulf Production Company's W. N. Waddell 9, C NE Section 11, Block B-23, PSL Survey, extended production about two miles to the north and east flowing 30 barrels per hour from lower lime horizon at 3540-3543 feet, or 775 feet below sea level.

The Gulf-Waddell area was uncovered in August, 1927, by Gulf Production Company on a 38,000-acre wildcat block. Development work that followed yielded only small wells, and after completing three dry holes and four producers averaging 25 barrels each the company suspended operations and resumed paying lease rentals. E. M. Wahlenmaier et al staged a try at developing production on the northeast edge of the pool last summer in drilling W. P. Edwards 1, SWc NE Section 12, Block B-23, and were rewarded with a semi-commercial producer that has since been sold for its salvage value. Gulf Production Company's Snodgrass 1, C NW Section 1, Block B-25, was drilled on the strength of the showing made by the Wahlenmaier test, resulting in a 50-barrel producer after two shots of nitro and acid treatment at 3500 feet, or minus 759 feet. Indications are that it was not carried to the second lime pay zone picked up by Waddell 9, which tested 25 barrels after shot in upper pay at 3518 feet. Wahlenmaier et al's Kloh 1, SWc SE SW Section 33, Block 44, T-3-S, failed to extend the productive limits of the area about 1½ miles to the northwest in developing sulphur water at 3695 feet, although it will be plugged back and given a shot of nitro in the 3300-foot horizon. Top of lime was called at 3130 feet, or only 12 feet lower on structure than Waddell 9.

Completion of Fuhrman Petroleum Corporation's W. H. Boner 2-B, fourth producer for the Fuhrman pool, Andrews County, flowing 150 barrels of pipe line oil per hour from lime at 4437 feet makes the area the most productive in the county. The well is situated 440 feet south of the center of the north line of NE¼ Section 25, Block A-43, PSL Survey, and on a line between other producers. It was temporarily completed several weeks previous flowing 1700 barrels daily from lime at 4400-4406 feet, and more than doubled its output in deepening to 4437 feet. The Fuhrman Petroleum Corporation, Midland, Texas, completed its discovery well in November, 1930, and a second producer in 1932. The third well was completed in 1934 after arrangements had been consummated for Humble Pipe Line Company to extend a line into the area. Location for a fifth test has been made directly north of the big producer.

Four new tests for the Wentz pool section of the McCamey district, Upton County, have been authorized since the completion of Texas Pacific Coal & Oil Company's Milton Shirk 6-D, NEc SE¼ Section 35, Block 1, MK&T Ry. Survey, flowing 611 barrels daily after shooting saturated lime at 2230-2285 feet with nitro and then treating same with 1000 gallons of acid solution. The company is starting operations on J. F. Lane 2-E, an east offset, while Gulf Production Company is to drill a north offset. Acreage situated a short distance to the southeast will be the scene of the other two tests. Amerada Petroleum Corporation has moved in machine to drill Lee R. Lane 1, NWc S½ SW¼ Section 32, Block 1, while Texas Pacific Coal & Oil Company is to drill Cordova et al 1, NWc E¼ Section 33, Block 1. One half interest in this 320-acre tract was procured from the Cordova Union Oil Corporation for the drilling of a free well.

The north portion of the Permian Basin is commanding a liberal share of the wildcat exploration work under way and projected for West Texas, with interest now centered upon the outcome of tests nearing a decisive stage in Lynn and Dawson Counties. Edgar T. Hart and Wanete Oil Company's C. O. Edwards 1, NWc SE¼ Section 29, Block 1, L. & S. V. Ry. Survey, about 7½ miles southwest of Tahoka, had proceeded to the 4300-foot level late last week, with the owners reporting traces of gas in the cuttings. Top of brown lime was logged at 3965 feet, and first dolomite lime at 4140 feet, with an elevation of 3112 feet. In Dawson County, Harry Adams Corporation, Ray A. Albaugh et al's John Robinson 1, C NW¼ Section 46, Block "M," E. L. & RR Survey, developed a fishing job at 4860 feet. Top of dolomite lime was logged at 4580 feet, with an elevation of 3085 feet.

An extremely isolated wildcat for Yoakum County has been promoted by C. J. "Red" Davidson, J. P. Johnston, co-discoverer of the McCamey field, and the Honolulu Oil Corporation to be drilled on the L. P. Bennett ranch, C NE NE Section 678, Block "D," John H. Gibson Survey. The location is about 30 miles removed from any previous test drilled to the dolomite lime, or probable producing horizon. Honolulu Oil Corporation acquired one half interest in the checkerboard block of 5100 acres the above two Fort Worth operators procured from the Texas Pacific Coal & Oil Company's original block of 9600 acres for the drilling of a test. Lease spreads have been sold to The Texas Company and Magnolia Petroleum Company.

Owners of residence blocks in the little town of Seminole, Gaines County, profited by a favorable geophysical survey obtained by Humble Oil & Refining Company and others when the former concern paid a cash bonus of $5500 for three-year lease on 14 blocks, aggregating 66 acres with streets and alleys deducted. The company also agrees to pay $1 per acre annual rental. Geophysical data on the Seminole area indicates the probable presence of a structure, and a number of companies have been quietly fortifying themselves with leases and royalty interests. Humble Oil & Refining Company first attracted attention to the area late last year when a cash bonus of $50,000 was paid to Texas Pacific Coal & Oil Company for an undivided one half interest in a checkerboard spread of 3100 acres, with an added

214 New Texas Drilling Permits

Austin, Texas.—Permits for the drilling of 214 new wells in Texas were approved last week by the Railroad Commission. This is a sharp decline from the average, which is accounted for by the fact that permits for only 17 new wells in East Texas were granted.

North Texas was at the top of the list with 45 new wells listed, of which 25 were in Archer County and 13 in Young. In West Central Texas there were 24 permits listed, with 15 in Shackelford County.

The Panhandle approached the maximum for any district with 44 new locations. There were 28 in Hutchinson County and 10 in Gray County. The West Texas district reported only 10 new wells.

In the Gulf Coast area there were 42 new permits filed, of which 15 were in Montgomery County. Southwest Texas, which usually leads the Gulf Coast, listed only 17.

San Angelo, Texas.—An aggregate of 6080 barrels of oil and 8,750,000 cubic feet of gas production was added by West Texas areas the past week through the completion of 14 producers, including a shallow dry gasser. There were also five failures, representing outpost tests in Ector and Ward Counties, and wildcats in McCulloch and Scurry Counties.

stipulation that the first two tests would be drilled free of cost to the selling company. However, the drilling of the tests is to be optional for Humble Oil & Refining Company.

A direct and a diagonal offset test to Gulf Production Company's White-Baker 3, discovery well of a shallow oil pool in Pecos County, failed to yield production after drilling below the oil horizon. International Petroleum Corporation's White-Baker 1, NEc SE¼ Section 4, Block 207, T.C. Ry. Survey, a south offset to the producer, has been plugged after drilling to 1875 feet, while Cardinal Oil Company's White-Baker 1, an east offset to the above failure, will likewise be abandoned after drilling to 2081 feet. The producer was completed late last year flowing 25 barrels oil daily from lime at 1824-1826 feet, and has since declined to 10 barrels daily.

Eppenauer Drilling Company and J. E. Cunningham et al's J. G. Tiller 1, Reeves County wildcat, scored a heavy flow of hot sulphur water in drilling to 3785 feet, and will be continued to the Delaware zone, the projected goal. It is located on the R. P. Altman-C. C. Wyatt Survey, about one half mile northwest of Toyah, and attracted interest early in January when gas production accompanied by a solid stream of sulphur water appeared from a crevice at 3673 feet, possibly from the Castile horizon. Drill pipe was sidetracked at 2340 feet in trying to deepen the hole. New hole was made below the latter depth to 3738 feet, where 5¼-inch casing was cemented and standard rig installed. No gas appeared when a test for production was made in the re-drilled hole.

West Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means field)—		
Humble, R. M. Means 3	145	4628
CRANE COUNTY—		
Gulf, Crier-McElroy 5-A	1445	2890
ECTOR COUNTY—		
Landreth Prod. Corp., University 6-T	235	3635
Phillips Pet. Co., John Scharbauer 1	*	4102
Shell, E. J. Jones 4	470	3718
Stanolind, Mrs. T. B. Roberts 1	700	4304
FISHER COUNTY—		
Gen'l Crude Oil Co., J. A. Young 5	70	3124
Southern Oil Corp., J. F. Pardue 1.	720	3110
HOWARD COUNTY—		
Sinclair Prairie, G. M. Dodge 14	135	2810
McCULLOCH COUNTY—		
Cardinal Oil Co., White-Baker 4	*	680
E. L. Coggin et al, Craven 1	*	680
Geo. E. Poulter et al, J. C. Hall 1	¶6	779
PECOS COUNTY—		
Cardinal Oil Co., Tippett-Kirby 31-E	40	528
SCURRY COUNTY—		
H. H. Coffield & Guthrie, Inc., O. H. Holliday 1	*	2967
UPTON COUNTY—		
Gulf, J. T. McElroy 110	¶¾-755	2932
T.P. Coal & Oil Co., M. Shirk 6-D.	610	2285
WARD COUNTY—		
California Pet. Co., B. D. Durgin 28	250	2548
B. D. Durgin 29	505	2612
P. Jerry Sines et al, Wm. Alley-Miller 1	*	2692

*Failures; †Junked; ¶Million cu. ft. gas.

Texas Panhandle Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Dixon Creek Oil & Ref. Co., J. C. McConnell 1-A	¶60	2655
J. C. McConnell 1-C	¶60	2660
J. C. McConnell 1-D	¶39	2700
GRAY COUNTY—		
Cambrian Oil Co., G. H. Saunders 1-B	265	2802
Cantone Oil Co., J. S. Morse 3	165	2642
Claude Drl. Co., B. F. Byrum-Shell 4	280	3294
Continental Oil Co., Carrie Wright 8.	1000	2887
Dixon Creek Oil & Ref. Co., W. Benedict 3	410	3287
J. C. McConnell 1-G	¶35	2705
Magnolia, Fee (No. 227) 9	865	2923
Martha Sailor 2	10	3418
Shell Pet. Corp., T. B. Haggard 1.	160	3249
Stanolind O&G Co., W. E. Cobb 6-C.	255	3325
J. H. Palmer 11	235	3010
Sun Oil Co., Combs-Worley 6-A	800	3004
Wilcox O&G Co., Combs-Worley 34	120	2898
HUTCHINSON COUNTY—		
Stanolind O&G Co., R. C. Ware 8-B.	115	3121
Harry Stekoll et al, Whittenburg-Canadian 4-G	425	3049
WHEELER COUNTY—		
Champlin Ref. Co., Thos. Edes 2	2600	2552
Miller & Huselby, Fee-State excess 1	2150	2543
Phillips Pet. Co., A. K. Lela 6,	¶29-1490	2527
A. K. Lela 8	2525	2545
Smith Bros. Ref. Co., Johnson 1	2180	2510
Smith Bros.-Hanlon Buchanan, Inc., D. N. Massey 1	¶48	2125
The Texas Co., P. M. Keller 8	¶17-3625	2526

West Central Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
Acrey Bros., J. Adams 1	*	1240
Key Oil Co., W. G. White 1	25	1231
Pet. Oil Int., R. M. Lowe 1	¶1¼	1485
CALLAHAN COUNTY—		
Drew Beams & Humble, I. N. Jackson 1	*	939
W. T. Graham et al, F. E. Clark 1.	*	865
Ungren & Frazier, Jackson 3-C	30	924
Jackson 4-C	65	915
COLEMAN COUNTY—		
Howard Samuel & E-F Pet. Corp., C. I. Hassard 1	*	2131
COMANCHE COUNTY—		
Bellmont Oil Co., L. Poteet 1	25	2843
C. R. Cox et al, J. C. Watkins 1	¶2¼	2858
EASTLAND COUNTY—		
Ralph Herring et al, T. M. Mitchell 1	*	382
Hickok P.&D. Co., Cleveland 1	¶2	3868
A. A. Walton et al, T. L. Brown 1	15	2480
PALO PINTO COUNTY—		
Brazos River Gas Co., Fee-Costello 2	¶3½	2280
Int. Pet. Corp., Allen-Ritchie 4	5	1547
Costello 6	25	1416
SHACKELFORD COUNTY—		
Charter Oil Co., Morris-Buie 8	25	1641
Choate & McCamey, E. Simpson 4	25	1555
Gilman & McMurry, Earhart 1	25	760
Owens-Snebold Oil Corp.-FHE Oil Co., Reynolds 7	50	1081
Poly Oil Co., A. Spears 9	*	777
Reliance O.&R. Co.-Jones & Stasney, G. R. Davis 2	95	1632
T. W. Lee 1	*	1045
J. H. Nail 5	75	1446
W. J. Rhodes et al, Geo. Gray 2	*	1736
Roeser-Pendleton, Inc.-Conoco, W. I. Cook 52-A, Sec 61	65	1223
Roeser-Pendleton, Inc., Morris-Buie 20, Sec 201	20	1601
Roy Shyrock et al, M. Crow-Hatcher 4	9	703
Harold Vance et al, I. N. Jackson 1.	*	776

*Failures; †Junked; ¶Million cu. ft. gas.

North Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns et al, R. Churchwell 2, blk 145	110	1164
Continental & Cullum, Falls 23	65	1183
F. P. Cullum et al, Falls-Ellis 31, blk 10	300	1156
F. P. Cullum & Alexander, Falls 28, blk 4	70	1210
Fain-McGaha Oil Corp., C. S. Arnold 39	200	1222
C. S. Arnold 40	250	1224
W. Ferguson 24-C, sec 2	*	1776
W. L. Hawkins et al, B. C. Andrews 2	20	871
Hooker & Blackerby, W. H. Terrell 1, blk 17	8	664
S. H. Huggins et al, Walter Ford 1.	*	1200
G. A. Milroy et al, H. O. Prideaux 4, blk 6	15	648
C. R. Obermeyer et al, Neal Wilburn 1, sec 1597	*	1200
Geo. L. Pace et al, Abercrombie 24, blk 156	60	1195
Perkins-Cullum Oil Co., Falls 154, blk 5	120	1204
Falls-Carey 6, blk 4	40	1204
Pet. Prod. Co., F. Brezina 1, sec 2410	75	1439
United Prod. Co., J. R. Jones 1, sec 1400	*	925
White & Duncan, S. Webb 4, blk 9.	8	699
BAYLOR COUNTY—		
Consolidated-Pet. Prod. Co., W. H. Portwood 1-D, sec 1587	250	1383
CLAY COUNTY—		
Walter H. Gant et al, Worsham 2, sec 38	*	5127
COOKE COUNTY—		
Bridwell Oil Co., R. W. Trew 1	200	1485
JACK COUNTY—		
Brazos River Gas Co., Mrs. P. B. Keyser 4-B, sec 6	¶5	2968
Buttram Pet. Co., T. A. Jones 12, sec 5	60	2053
Dobbs Oil Co., S. S. Campsey 1	*	807
E. H. Van Patton et al, L. Richards 1	*	460
MONTAGUE COUNTY—		
Howard & Redman, J. W. Stewart 1	*	1274
Lesh & McCall, C. L. Davenport 4.	250	1678
THROCKMORTON COUNTY—		
Dickie Bros., J. C. Irvin 1	*	782
WICHITA COUNTY—		
Centennial, Wichita River 1	*	523
Golding & Cochran, Waggoner Bros. 14-C, blk 17	*	1574
Waggoner Bros. 15-C, blk 17	35	1397
Humble, Wichita-Taylor 28, blk 81.	12	844
Pet. Producers Co., 1st Nat'l Bank 70, sec 29	9	1460
Geo. Proctor et al, W. B. Honaker 18	*	1525
Texas Co., 1st Nat'l Bank 19, sec 26	*	465
WILBARGER COUNTY—		
A. G. Reed et al, Waggoner Est 1, sec 14	9	1683
YOUNG COUNTY—		
Jas. B. Baker, Jr., et al, O. S. Perkins 7, sec 206	*	781
Chas. Barnes et al, Alice Hazelton 1, sec 1995	*	481
L. T. Burns et al, S. J. Furr 1, sec 37	*	800
Cato Bros., G. B. Hamilton 6, sec 1393	60	892
Christie Bros., Jeffery 3	*	3978
R. W. Clampitt et al, W. Farmer 1.	15	745
B. C. Gilmore et al, Prideaux 1, blk 15	15	517
Lindsey Drl. Co. et al, M. Morgan 2, sec 3413	*	4933
McLester Oil Co., Rickles-Vick 1, sec 3410	*	3815
Pet. Prod. Co., J. C. Graham 12, sec 2249	25	693
Rathke Oil Co., C. E. Graham 8, sec 3401	*	959
Wooten & Reed, J. A. Watson 3, sec 1910	*	610

*Failures; †Junked; ¶Million cu. ft. gas.

Settled Production In Wichita County Sold

Wichita Falls, Texas.—Valuation of $800 per barrel basis for settled shallow production in the old K-M-A multiple sand area, Wichita County, was involved in a recent sale by United Producers Company to Burk Royalty Company. The latter is reported to have paid $72,500 cash for an aggregate of 118.72 acres, bearing 19 pumpers with a gross yield of 95 barrels daily. The deal included the W. L. Hodges 40-acre "A" lease, Lot No. 9, HT&B Ry. Survey, A-139, bearing 15 wells producing 70 barrels daily from three separate sands; the Hodges 38.72-acre "B" lease, Lot No. 8, with three wells making 12 barrels daily from two sand zones; and the Allen-Kemp 40-acre lease, SEc Block 44, KWVFL Survey, bearing one well rated at 13 barrels daily.

West Central Texas New Wells Gain

Eastland, Texas.—Completions in West Central Texas scored a substantial gain in volume the past week, with reports on 29 tests, including nine dry holes. There were 16 shallow oil producers with an aggregate of 579 barrels of new production, while four gas wells registered a combined initial of 9,500,000 cubic feet.

MRS. KATHERINE TYSON, wife of Knox Tyson, geologist for Continental Oil Company, San Antonio district, died recently.

San Antonio Makes Elaborate Plans for A. P. I.

San Antonio, Texas.—An elaborate entertainment program has been prepared for the American Petroleum Institute Southwest Production Division meeting to be held in San Antonio April 25 and 26. Coming at the time of the annual Fiesta de San Jacinto, and spring horse race meeting, every minute of time aside from the business sessions has been devoted to entertainment.

Approximately 750 delegates and their wives are expected to be present.

The entertainment will commence on April 24 with the coronation of the Queen of the Fiesta. Reservations are being made at this time for visitors to the convention to attend this elaborate spectacle as guests of local oil operators.

On April 25 will be the world famous Battle of Flowers parade, in which miles of floats, and nearly 100 bands will celebrate the winning of independence by the Republic of Texas. Grandstand seats to the parade also have been provided complimentary for the visitors.

April 26 will climax the entertainment program with a banquet for the entire convention. In keeping with the celebration, the banquet will be carried out in the form of a Mexican fiesta. A Spanish floor show, supported by a nationally known Mexican orchestra, will provide the entertainment.

Due to the many regular features of the fiesta and the horse race season, there will be no golf tournament. Golf tournaments usually are a feature of conventions held in San Antonio.

The preparations for this convention have been mainly in the hands of Al. A. Buchanan, chairman of the general convention committee; Ernest B. Rubsamen, chairman of the entertainment committee; and Mrs. Norma Hancock, in charge of the ladies' entertainment committee. Special program has been planned for the ladies attending the convention.

Plaza Hotel in San Antonio has been named general headquarters and all meetings will be held there.

It is suggested that hotel reservations be made early. There usually is a shortage of hotel space during the Fiesta week, and additional space will be taken as a result of the large number of operators to be present at the American Petroleum Institute meeting.

Sandia Deep Test Is Plugging Back

San Antonio, Texas.—O. W. Killam's W. D. Wade 4, deep test on the northeast side of the Sandia gas field, Jim Wells County, failed to make a producer at the lower levels and has plugged back to perforate at 2930 feet, where it will be completed as a gasser. Drilled to 4850 feet, it was plugged back and attempted to test sand at 4022-29 feet in sidetrack hole.

Magnolia Petroleum Company's A. A. Seeligson 6, Premont field, is being completed at 3746 feet, after showing for a good producer at 3741-46 feet when drill stem test was made. Plugs have been drilled.

Six miles west of Premont, Charles Evans et al's Cristler 1 (carried by some as Barley) in Section 41, has been abandoned at 4005 feet.

New Field Opened in San Patricio County

San Antonio, Texas.—Another field below 5000 feet apparently has been established in San Patricio County by Plymouth Oil Company's Welder 1-C, which cored four feet of saturated oil sand at 5218-22 feet. Preparations are being made to take a drill stem test. Elevation is 55 feet derrick floor.

The well is located three miles southeast of the Aransas gas field and 10 miles northeast of the town of Sinton. It is 2000 feet from the north and east lines of Section 49, re-survey of the Welder ranch.

One mile south of the Sinton field, Heep Oil Corporation finally got a producer in Welder 1-B. The well originally was completed at 5454 feet, went dead and was deepened to 5910 feet. It then plugged back to 5454 feet and is now jetting about 35 barrels per day.

Midway between this well and the field, Plymouth Oil Company is drilling below 2400 feet in Welder 3-A.

Saxet Field Test Has Shallow Blowout

San Antonio, Texas. — Tremendous pressure of the shallow Miocene sands of the Saxet field, Nueces County, are indicated by the blowout which occured several days ago in A. F. Holliday's Stillwell 2. At 996 feet, the test went out of control and ran wild several days, blowing considerable sulphur water and gas. It caught on fire, but the fire was extinguished by the water. It is now preparing to drill deeper.

Southern Minerals Company has added another good producer to its holdings in Ocker 4. The well flowed 15 barrels per hour from 4856-64 feet, showing tubing pressure of 500 pounds and casing pressure of 625 pounds.

Plugged back from 5259 feet, Magnolia Petroleum Company's S. Page 1 was completed as a large gasser through perforations just above 4080 feet. Tubing pressure was 650 pounds and casing pressure 950 pounds.

Carroll Pool

San Antonio, Texas.—Carroll pool of Bastrop County is to receive consistent development campaign by Nelson Puett, who is drilling his fourth well in this area. J. H. Carroll 3 recently was completed for 80 barrels per day from a total depth of 2156 feet. Eelevation is 401 feet. Top of Austin chalk was recorded at 2156 feet.

Extension and New Field in Duval County

San Antonio, Texas.—A new Hockley-ensis sand field along the Government Wells trend and a probable extension of two miles to the Loma Novio field brought Duval County back into the limelight as wildcat hotspot. Both tests are considered of major importance.

Harvey and Henderson's Chernosky 1, three miles west of the Labbe gas field and two miles south of the McMullen County line, is drilling out plugs preparatory to completion. The well showed 1900 feet of 20.5 gravity on a 12-minute drill stem test from sand at 222-34 feet, steel line measurements, and set casing atop the sand. Elevation 534 feet, derrick floor.

The test is in the southwest corner of Survey 226 and is on trend with the Government Wells group of producing areas.

Santa Clara Oil Company has made a location for immediate drilling one mile south of the well. It is Wood Welder 1, 330 feet from the north line and 2310 feet from the west line of Section 385.

Blanco Oil Company and Al Buchanan's G. Ruiz Estate 1, two miles north of the Loma Novio field production and less than a mile east of the north end of the Government Wells field, is reported to be running about 60 feet higher than the main Loma Novio production at 2200 feet. It is expected to make a gas well. The well is in the southeast corner of a 282-acre tract in Section 73.

Several other outpost wells are drilling, but have not reached sufficient depth to indicate their possibilities.

The Texas Company added another good producer to the field, it being M. Vela 2, south half Section 42, flowing 20 barrels of oil per hour from sand at 2728-44 feet.

Bruni Townsite

San Antonio, Texas.—Only one new oil producer was added to the Bruni townsite area of the Cole field, Webb County, during the week, that being American Liberty Oil Company's A. M. Bruni 15-A, Block 40, which showed an initial flow of 30 barrels per hour through ⅛-inch choke at 3403 feet.

Kerr County

San Antonio, Texas.—Eastland Oil Company and Jeff Love's Jeff Love 5-E, 45 miles southwest of Kerrville in Kerr County, is having considerable trouble drilling through cavities. It has cemented at 4725 feet. Several of these cavities have been encountered thus far.

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Two Live Oak County Wildcats May Produce

San Antonio, Texas.—Two wildcats in the vicinity of Dinero, Live Oak County, were showing for producers in separate sands below 5000 feet late in the week. A third well, in still another horizon, was completed as a large producer indicating prolific area in the new McNeill field.

Smith and Storey's Frederick 1, Jane Curry Survey, about three quarters of a mile east of Dinero and one and one half miles north of the Lucas field, had drilled plugs and was preparing to complete at 5209 feet. It likely provdes an extension to the Lucas field, rather than opening a new pool. It has an elevation of 104 feet derrick floor. Hockleyensis was topped at 4155 feet; Pettus at 4980 feet and Yegua at 5201 feet, eight feet of sand being cored. An electric formation testing device indicated production in both the Yegua and Pettus sands. A drill stem test of a sand at 4264-71 feet in a Hockleyensis sand showed some gas.

Several miles west of this well and one mile northwest of the McNeill field, J. O. Whittington et al's Little 1, in the M. M. Shipp Survey, set casing atop a sand at 5334-44 feet in the Yegua. Elevation is 270 feet derrick floor. A sand in the Hockleyenis at 4230-37 feet showed mud, oil and gas. Broken sand and shale was cored to another sand topped at 4390 feet, five feet in thickness, the latter showing salt water with a little oil. It topped the Pettus at 4987 feet, showing a small amount of oily mud. Yegua was topped at 5190 feet and a 30-foot section to 5220 feet showed streaks of sand carrying a little oil. It was drilled to 5314 feet and abandoned. The original drilling was by Henderson Coquat et al, the well being taken over at the abandoned depth to deepen.

Lion Oil Refining Company's P. E. McNeill 4, flowed 512 barrels of oil on first 12-hour gauge, from sand at 4372-81 feet. The well has not fully cleared itself, and was showing about three percent wash water, not salty. The well showed a working pressure of 1110 pounds on tubing through ¼-inch choke. Casing pressure was 1350 pounds closed in. The well is the fourth to be drilled on the block by Trinity Drillers, Inc., contractor, for the Lion Oil Refining Company. The first, discovery well, made an initial flow of slighlty more than 500 barrels per day, but pressure was low and the flow declined rather rapidly. The second and third wells showed for gassers, one of which made a slight bit of oil. The new well is 660 feet due south of the discovery well. All wells are producing from the same level in the Hockleyensis.

New Port Lavaca Well Completing

San Antonio, Texas.—Steinberger Petroleum Corporation's Shofner 1, second test to be drilled in the new Port Lavaca field of Calhoun County, has drilled plugs and is in process of completion. It is at 6239 feet, about 75 feet below the discovery well and apparently in a new sand.

On a drill stem test from 6216-39 feet, it showed 3460 feet of 43 gravity oil and 125 pounds pressure in 24 minutes. It had cap from 6224-32 feet and sand from 6232-39 feet. It previously has shown for a tremendous gasser spraying distillate just below 6100 feet.

The well is in the A. Esparza Survey, about one fourth of a mile from the Steen Drilling Company's discovery well.

With an elevation of 20 feet, derrick floor, the well topped the Catahoula at 4670 feet, and the Discorbis at 5405 feet.

Continental Oil Company is nearly ready to spud in American National Realty Company 2, NE NE Section 6, Block C, P. Garcia Survey, nine miles south of Seadrift. It is an 8000-foot contract, but probably will be carried deeper. Heaving shale is one of the obstacles to be overcome in drilling this well and special equipment is being used.

Southwest Drilling Corporation is preparing to start another well on its Welder block in the western part of the county. It probably will be a 7000-foot hole.

Refugio County

San Antonio, Texas.—Quintana Petroleum Company's Tom O'Connor 2-B, Refugio County wildcat, east of the Refugio field, was drilling below 9850 feet late in the week.

Quintana Petroleum Corporation is developing an excellent property in the Tomoconnor field, completing its seventh producing well out of the same number of tests started. O'Connor 7-A, center proration unit No. 32 and in the Swisher Survey No. 4, flowed 1500 barrels per day through ⅜-inch choke from sand at 5780-5836 feet. Working pressure is 875 pounds on the tubing. O'Connor 8-A is drilling below 2000 feet.

Victoria County Wildcat Has Show

San Antonio, Texas.—Moore and Ahern's Henderson and Pickering 1, southern Victoria County wildcat, showed 400 pounds pressure on a drill stem test of a sand at 5324-35 feet in the Frio. It is coring ahead. The well is one and one half-miles northeast of Placedo and 14 miles southeast of Victoria. It is southwest of the Keeran field and the sand in this well likely is one of the producing horizons of the Keeran field. Elevation is 56 feet, derrick floor.

The well is 5280 feet from the northwest line and 330 feet from the northeast line of the W. Rupley survey.

The block is partly a farm out of the Gulf Production Company to T. J. Ahern and D. Moore of Houston. A few leases were added to fill out the holes in the block.

Important Hidalgo Wildcat Drilling Plugs

San Antonio, Texas.—Union Sulphur Company is preparing to drill plugs on its deep wildcat in eastern Hidalgo County, which is showing for a producer in a sand at 7477-93 feet. Details concerning the strike are lacking, but cores are said to have been sufficiently promising that pipe was set without taking a drill stem test.

The well is located 400 feet from the south line and 600 feet from the east line of Lot 2082, Block 86, North Capisallo District, Llano Grande Grant, and is near the center of a 30,000-acre block lying in Hidalgo and Cameron Counties.

This test is known as American Rio Grande Land and Irrigation Company 3, and is 200 feet west of same Fee 2, which was junked at 8044 feet when drill pipe twisted off in shale.

This is the fourth test to be drilled in this general area by the Union Sulphur Company. The first was on the above fee, being drilled to 6431 feet, where it twisted off drill stem. The second twisted off at 8044 feet. The other test drilled in the area was started by McCollum Exploration Company and drilled to 6009 feet. It was taken over by the Union Sulphur Company and drilled to 7508 feet, where it was abandoned as a failure.

Union Sulphur Company has considerable acreage under lease in the Rio Grande Valley, most of which has been checked with geophysical equipment by the McCollum Exploration Company. A series of deep tests are contracted for over the entire area.

It is understood that Union Sulphur Company's block upon which this well was drilled is not solid and that a number of small tracts ranging from 10 to 20 acres, are unleased.

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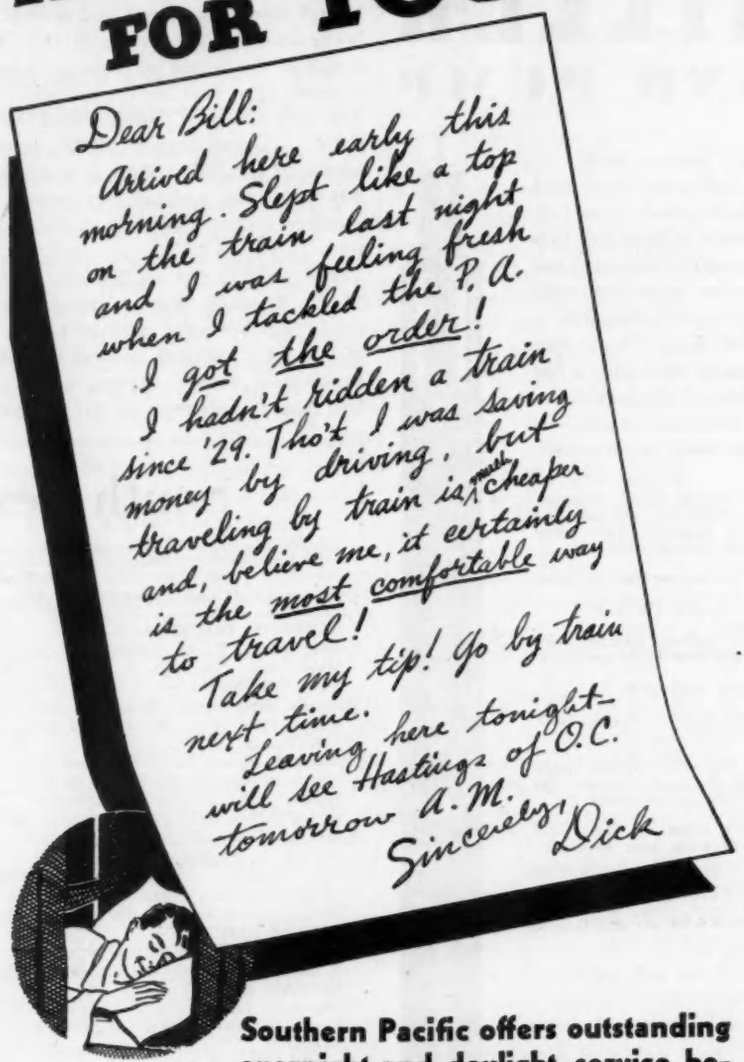
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Charco Redondo Field To Receive Deep Test

San Antonio, Texas.—At least one Mount Selman sand test and several shallower holes will be sunk in the Charco Redondo field area of Zapata County as a result of a deal completed with Deane Brothers of San Antonio and Wichita Falls. Approximately 4000 acres of leases, 67 producing shallow wells from a 200-foot sand and all equipment, were acquired several days ago by these operators.

The field is one of the old producers of the Mirando district and has several producing horizons, mainly a gas zone at 900 feet. Several wildcat tests drilled to shallow depths showed other sands, but thus far no tests of the Mount Selman formation have been attempted. It is expected to be picked up between 2400 and 2600 feet.

The true importance of this development is that it is another one of the Mirando structures, which has practically exhausted its known sands and is to be re-drilled to the older beds in search of production.

The field is about 15 miles east of Lopena, producing from the Mount Selman. There has been only one well drilled sufficiently deep in the Lopena field to give anywhere near a true picture of the thickness of the Mount Selman sand, that test stopping 264 feet in the sand and still in it. The sand showed odor and stains of oil from near the top to bottom, but made a tremendous gasser spraying a very small quantity of oil.

South Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
Nelson Puett, J. H. Carroll 3, A. Mayes sur, (Carroll)	80	2156
BEE COUNTY—		
Mills Bennett, Tuleta Mercantile Co. 4, sw sec 10, J. M. Uranga gr (W. Tuleta)	275	3929
Jamison & Byron, P. L. Campbell 1, 150 ft nl and wl blk 20, 20-ac tr, Busher sub, Brooks & Burleson sur, 1 mi sw field (W. Tuleta)	250	3960
Edwin M. Jones, D. E. Robinson 13, sw sec 5, Ragley sub, Uranga gr (W. Tuleta)	200	3956
United Prod. Co., Geo. A. Ray 49, W. J. Porter sur (N. Pettus)	50	3714
BEXAR COUNTY—		
Campbell et al, Margaret Cantu 1, J. M. Arocha gr (Lone Oak)	12	1481
DUVAL COUNTY—		
Government Wells Oil Co., Lundell State 16, sw sw Sec 48 (Gov't Wells)	30	2305
Magnolia, Hahl-Southland 15, nw sec 61 (Gov't Wells)	180	2300
Ruiz (M), 7 sec 574 (Sarnosa)	80	2471
Southwest Drlg. Co., Luptack 2, se sec 41 (Gov't Wells)	¶20	2271
Texas Co., M. Vela 2, s sec 42 (Loma Novio)	500	2744
GUADALUPE COUNTY—		
Grayburg Oil Co., McKean 13, Cottle sur (Luling)	30	1790
HIDALGO COUNTY—		
O. L. Cordell, Seabury 4, Tr. 256, por 38 (Samfordyce)	200	2799
Heep Oil Corp., John Lawrence 1, Tr. 274 Por 39 (Samfordyce)	200	2764
JIM WELLS COUNTY—		
Chas. Evans et al, Cristler 1, 2310 ft nl and el sec 41, I&GN Ry. sur	*	4005
KARNES COUNTY—		
American Liberty Oil Co., Belknap 2, 3000 ft nwl, 833 ft nel Chas. Haynes sur, 1½ mi ne Burnell field	*	3667
E. L. Smith Oil Co., J. E. Steed 1, 330 ft nel and nwl of 219.75-ac tr, B&B sur No. 22 and 23	*	3942
LIVE OAK COUNTY—		
Brunson et al, Nichols 1, 6900 ft nl, 4600 ft wl of Ayers sur, Ab. 2	*	1325
Lion Oil Ref. Co., P. E. McNeill Est. 4, blk 9, GH&H sur No. 199, (McNeill)	2000	4381
McMULLEN COUNTY—		
John F. Camp, H. L. Lark 1, blk 133, Lark sub, E. W. B. Scrugham sur (Jacob)	*	lcn.
Loma Oil Co., L. Jacob Corp. 35-A, W. H. Jacob sur No. 8 (Jacob)	200	970
J. Simmons, Love Ranch 1, 4100 ft sl, 1000 ft el sec 1, J. Poitevent sur	*	1065
Winters et al, Lowe Ranch 2, c sec 2, blk 4	*	1067
NUECES COUNTY—		
Magnolia Pet. Co., S. Page 1, Kinney sur No. 586, sec 8, (Saxet) pb 4080	¶20	5259
Southern Minerals Corp., Ocker 4, sec 8 (Saxet)	350	4864
REFUGIO COUNTY—		
Quintana Pet. Corp., Tom O'Connor 7-A, J. M. Swisher sur No. 4 (Tomoconnor)	1500	5836
SAN PATRICIO COUNTY—		
Heep Oil Corp., Welder 1-B, Portillo sur (Sinton) wo, dr ahead fr 5454 to td, pb 5454	35	5910
STARR COUNTY—		
E. B. VanHuss et al, Garcia Land & Cattle Co. 1, 330 ft el of por 100, 4742 ft s State Highway 4 (Samfordyce)	*	2798
VICTORIA COUNTY—		
Plummer Drlg. Co., E. Terrell 1-C, R. Manchola gr (Coleto Creek) perf csg 2100-ft sand	¶20	2805
WEBB COUNTY—		
American Liberty Oil Co., A. M. Bruni Est. 15-A, blk 40, Foltz sub, Arispe gr (Cole-Bruni townsite)	1000	3403
Gates Ranch Oil Co., Gates 6, sur 63 (Leaseholders)	*	850
O. W. Killam, A. M. Bruni 1-A, 200 ft wl, 275 ft nl blk 55, Albercas gr	*	2352
WILLACY COUNTY—		
South Texas Dev. Co., F. Armendiez 1, 7350 ft wl, 330 ft nl, Little Share 4 (2606-ac tr)	†	5165
WILLIAMSON COUNTY—		
Lanning & Coffield, Inc., Walter R. Heap 3, H. White sur, (Byersville)	86	895
G. L. Rowsey, Tr., H. Hartman 1, 625 ft wl, 1485 ft sl of 115-ac tr, H. White sur, e Byersville field	*	1106
ZAPATA COUNTY—		
O. W. Killam, A. M. Bruni 2, 2610 ft nel, 5575 ft nwl of Borrocito Pasture, J. V. Borrego gr	*	2180
Vollmering et al, A. M. Bruni 1, 5815 ft nwl, 2785 ft nel Borrocito Pasture, J. V. Borrego gr	*	372

*Failures; †Junked; ¶Million cu. ft. gas.

West Tuleta Extension Causing More Drilling

San Antonio, Texas.—Another spurt in drilling activity in the West Tuleta field of Bee County is to result from the extension one mile southwest effected severol days ago by Jamison and Byron's P. L. Campbell 1. At last reports, it was flowing 201 barrels per hour through 3/16-inch choke, showing tubing pressure of 500 pounds and casing pressure of 560 pounds.

The well is located 150 feet from the north and west lines of Block 20, a 20-acre tract in the H. Bucher subdivision of the Campbell land in the Brooks and Burleson Survey, Abstract 129.

Record on the well follows: Elevation 342 feet, derrick floor; top Hockleyensis 3348 feet, top Pettus sand 3456 feet, total depth 3460 feet, still in sand, seven-inch casing set atop sand. Of particular interest, the well topped the Hockleyensis low, but cut the fault above the Pettus to top the sand at a minus level of 3614 feet. It took four feet of sand, putting it only eight feet above the recognized water line. It is slightly above a failure drilled by the Conservative Oil Company et al, which is located 3800 feet to the south. It indicates a flattening to this direction, which should result in a number of excellent fluid wells not affected by the high gas-oil ratio.

Sand in the West Tuleta field has an average porosity of 35 percent, and it is conservatively estimated to have a minimum total recovery of 8500 barrels per acre in the area between the water and gas contacts. Some of the field is expected to do twice that good. Production is not as a result of water drive, it is said.

Dickinson Field

Houston.—In the Dickinson field, Humble Oil & Refining Company's Danielson 1, 2500 feet southeast of the discovery well, J. Seller Survey, Galveston County, was drilling ahead below 9148 feet at the close of the week. The well showed 800 feet of oil on a recent drill stem test but the operators decided to carry the well on down and then plug back to test the sands.

The same operator's Schafer 1, 3500 feet west of the discovery well, W. K. Wilson Survey, was preparing to make the fourth drill stem test from sands found from 8675 to 8916 feet. The operators attempted three drill stem tests but the seat failed to hold each time.

Turnbull & Irwin have made location for J. Piazza 1, 460 feet west and 250 feet south of Humble Oil & Refining Company's Jones 1, on a 23.7-acre tract in the J. S. Sherman Survey. This acreage was farmed out to Turnbull & Irwin by the Gulf Production Company.

Thompson Field Is Extended Quarter-Mile

Houston.—The Thompson field of Ft. Bend County was extended 1500 feet northeast when Gulf Production Company completed F. I. Booth 1 for 48 barrels per day from 5400 feet.

The well made the initial flow through 2½-inch tubing and now is shut in for storage. The oil sand was topped at 5336 feet and six-inch casing was set and cemented at 5325 feet. Screen was set from 5333 to 5398 feet.

The extension test is located 2777 feet west, 340 feet north of the southeast corner of 202-acre tract and survey in the H. Chrisman Survey.

The same operator's Gehr 1, S. Kennedy Survey, 640 feet east of Naylor's operations that extended the field some time ago, was swabbed at the close of the week but would not flow. The bottom of the hole is 5365 feet.

Gulf Production Company has made location for S. B. Gehr 2, 571 feet east of Gehr 1 and 340 feet from the north line of lease in S. Kennedy Survey.

Gulf Production Company's Booth A-24, S. Kennedy Survey, was completed during the past week from 5252 feet making 55 barrels of oil per hour through a ⅜-inch choke. Tubing pressure was 640 pounds; casing 750 pounds. The oil was 25 gravity.

The Needville area of Ft. Bend County is taking on renewed life. An independent operator has taken 500 acres in the area, paying from $15 to $20 per acre. The leases are for one of the major oil companies. A geophysical crew has been working in the area for the past six weeks.

Southeast of Rosenberg, a major oil company is working up a block of 5000 acres. Some of the acreage was taken for a test well. A 7000-foot test is to be spudded within 90 days of completion of the block. The test is to be in the I. & G. N. Survey, Section 3. Another major company took 219 acres in the area paying $3.50 per acre.

Polk County

Houston.—Humble Oil & Refining Company has made location for Texas Long Leaf Lumber Company 1, 466 feet north of the east line and 2250 feet north of the west line of Section 21, A. Viesca Survey, Polk County. The well is located two miles east and slightly south of Goodrich.

Liberty County Well Preparing to Test Sands

Houston.—Jack Frazier's Lynotte Buffon 1, James Robeson Survey, Liberty County, was preparing to test sands from 7364 to 7378 feet at the close of the week. The casing was perforated with 20 shots and a drill stem test will be made.

Cement was drilled from 7355 to 7380 feet. This well was abandoned at one time at 7460 feet after showing salt water. The operators decided to go back into the hole to perforate the upper sands.

This wildcat attracted considerable attention at the time it was drilling as it was running over 500 feet higher than several wells drilled in the area.

New Tomball Well Completed Last Week

Houston.—Another producer was added to the southeast flank of the Tomball field when Humble Oil & Refining Company completed Gossett 2, for 462 barrels daily through a quarter-inch choke.

The hole was drilled to 5558 feet and the well came in the above initial flow with 650 pounds on the tubing and 1050 pounds on the casing. The oil was 39.6 gravity.

The well is located 1500 feet southwest of Gossett 1, which was completed some time ago to extend the field to the southeast. It is 466 feet from the northeast line and 355 feet from the northwest line of 231½-acre tract in E. Smith Survey. The well is located to the south and west of the town of Tomball which gives further indications that the city lots in the town will be drilled. Humble Oil & Refining Company is slowly surrounding the city with drilling wells. The operators have one well now drilling on a city lot.

The same operator's H. Scherer 1, J. House Survey, was completed during the past week for 489 barrels per day from 5592 feet. The flow was through a quarter-inch choke with 1200 pounds on the tubing and 1500 pounds on the casing.

In the southeast portion of the county and centering in the area of Genoa, Humble Oil & Refining Company was assigned one half interest in West Production Company's 1382 acres. West Production Company has three quarters interest in the acreage. Consideration was over $27,000 cash, which took care of all the titles and abstracting of the leases. The leases call for a 7000-foot test, which Humble Oil & Refining Company assumes

one half of all the drilling expenditures of drilling and development of the leases. The acreage carries a large oil payment which Humble Oil & Refining Company agrees to half interest. H. C. Cockburn has 320 acres in the A. Whitlock Survey and was offered by West Production Company $100,000 cash and a 1/48 override in royalty. This was refused by H. C. Cockburn.

Perforated Casing In Conroe Pool Test

Houston.—The first gun perforating work done in the Conroe field of Montgomery County was on South Gulf Oil Company's Granger 1, a farm out of Tide Water Oil Company. The operators ran an electrical logging device and then set casing on bottom and perforated from 5010 to 5081 feet with 43 shots. At the close of the week the operators were washing the well in.

Sun Oil Company's Jones 1, gets credit for being one of the three wells in the Conroe field that has had a successful salt water plug off job. There are approximately 68 wells in the field making salt water.

To Pump New Kittrell Completion

Houston.—Humble Oil & Refining Company's Shaw 8, 440 feet northeast from the southwest line and 400 feet northwest from the southeast line of tract in C. E. Ellis Survey, Houston County, Kittrell field, was waiting on pumping unit after swabbing the well. The test flowed 124 barrels in seven hours through a half-inch choke and then went dead. Casing pressure was 90 pounds.

Houston.—Hamilton, Hill & Hill's C. R. Wharton 1, 2½ miles west of Fairbanks, W. C. R. R. Survey, Section 5, was shut down at the contract depth 7205 feet and probably will abandon at that depth.

The operators cored a salt water sand from 7170 to 7183 feet after perforating casing from 7034 to 7048 feet which also showed salt water. From 7183 feet to 7200 feet the well drilled in a soft formation like sand.

M. M. KORNFELD, Houston, consulting paleontologist, will be in charge of micropaleontological subsurface correlations for the drilling operation exhibit at the Oil Equipment & Engineering Exposition. Kornfeld's experience in Gulf Coast began in 1926, serving as paleontologist with three major oil and gas organizations in the Gulf Coast and Mid-Continent since that time.

Manvel Well Is Waiting on Cement

Houston.—Bowles & Borsodi's Norvel 2, one location east of the discovery well for Marginulina production on the north flank of the Manvel field, Brazoria County, was waiting on cement to set at the close of the week after showing oil from 5604 to 5617 feet and from 5634 to 5682 feet. The bottom of the hole is 5689 feet.

Gulf Production Company's Ellis 1, H. N. Little Survey, Manvel field, made a drill stem test from 5368 to 5374 feet and showed 800 feet of salt water and 900 feet of drilling mud. The test was made in 11 minutes. The operators are preparing to drill ahead.

Thompson Drilling Company's McCauley 1, was completed at 3983 feet and made 10 barrels per hour from the Miocene formation. The flow was through a quarter-inch choke with 325 pounds on the tubing.

Stanolind to Drill Four Tests at Hasting

Houston.—Stanolind Oil & Gas Company made four new locations in the Hasting field of Brazoria County during the past week. Sneed 1, is located 495 feet east along the south line of Miller lease from southwest corner and 466 feet southerly at right angles or approximately 3760 feet east of the west line and 2040 feet south of the north line in the A. C. H. & B. Survey No. 2.

Sneed 2 is located 491 feet east and approximately 1590 feet south of the northwest corner of 225-acre tract being an east offset to Paul 1. The well is located in the A. C. H. & B. Survey No. 2.

M. Grote 1 is a north offset to Paul 1, being 466 feet north and west of the southeast corner of 71.62-acre tract in the A. C. H. & B. Survey No. 2.

J. W. Surface 2 is located 375 feet south and 466 feet west of the most easterly northeast corner of 75.9-acre lease and being a west offset to Miller 1. The well is located in the A. C. H. & B. Survey No. 2.

Stanolind Oil & Gas Company's J. W. Surface 1, the discovery well for the field, was preparing to drill plugs at the close of the week with the bottom of the hole at 6154 feet and five-inch casing set at 6038 feet. The same operator's Paul 1, 2000 feet south of the discovery well, was also preparing to complete the well at 6018 feet with seven-inch casing set at 5831 feet. Wooster 1, 2600 feet north of the discovery well was reaming down to set casing at the close of the week. The total depth of the hole is 6050 feet.

To the north and northeast of Anchor in Brazoria County, a lease play continues. Gulf Production Company has paid $20 per acre cash and $50 per acre out of oil on 2000 acres. The lessee retained a 1/32 overriding royalty. To the northeast of Anchor, Humble Oil & Refining Company paid $100 per acre for 50 acres. The company paid $75 per acre for one 60-acre tract and for another 230 acres the company paid $13,500.

South and west of Bonney in Brazoria County, independent lease brokers are taking a 6000-acre block for geophysical work. The operators are paying 50 cents per acre with $5 upon selection. Considerable geophysical work has been done in this area in the past.

Chocolate Bayou Test Is Abandoned

Houston.—Amerada Petroleum Corporation's Houston Farms Development Company 1, east bank of the Chocolate Bayou, south of Liverpool, L. G. Bachelder Survey, Rattle Snake Mound Prospect, Brazoria County, was abandoned during the past week at 6550 feet in sidetracked hole after testing salt water.

The hole originally was drilled to 7663 feet. In the course of drilling of the wildcat the operators had trouble with the hole and were forced to plug back and whipstock a number of times. Casing was perforated from 6575 to 6600 feet with 30 shots and the well swabbed salt water and was abandoned.

Mykawa Field

Houston.—Danciger Oil & Refining Company's Minnetex 2, in the Mykawa field, W. H. Lovett Survey, Harris County, was completed during the past week at 4860 feet making 630 barrels per day through a quarter-inch choke. Tubing pressure was 690 pounds; casing 1500 pounds. Six-inch casing was set at 4803 feet.

West Production Company's Forbes 1, F. J. Rothaas Survey, on the east side of the field, tested salt water at 4596 feet and was preparing to plug back. Oil sand was topped at 4474 feet and seven-inch casing set at that depth.

Grimes County

Houston.—W. B. Roan et al's Geo. W. Sealy 1, 1½ miles southwest of Kellum Springs, B. F. Smith Survey, Grimes County, made a drill stem test during the past week from 2570 to 2714 feet which showed 13 joints of mud cut with gas. The well showed no pressure or salt water. The test was made in 10 minutes through a quarter-inch choke.

Austin County Activity Increasing

Houston.—Deering & Kayser have made location in Austin County for T. A. McClinton 1, 1100 feet east of the west line of tract and survey, also midway between the north and south lines of 115-acre tract in Thomas Bell A-15 Survey, which is south of Bellville.

To the northeast of Bellville, Paul English will drill F. Luhn 1, one mile southeast of Kenney, D. Chandler Survey, to the Cockfield formation. He has approximately 5200 acres.

On the west flank of the old Brenham dome in Austin County, independent operators have assembled a 3000-acre block. This acreage was taken for a 6500-foot test. The operators have sold around $30,000 worth of spreads to be paid when the well reaches the contract depth. Location will be announced shortly.

McCullum Exploration Company is reported to be making location for a 5200-foot test in the J. P. Stephenson Survey, which is west of Raccoon Bend. The company has approximately 2300 acres in the area.

To the southwest of Industry in Austin County, 200 additional acres were added to the independent operator's block, who has been leasing since the latter part of February 1935. The operators have approximately 2000 acres to date.

Twenty-five Texas Coast Completions

Houston.—There were 25 completions along the Texas Gulf Coast during the past week. This is the largest number of completions reported in the area for some time. Of the 25 completions, 17 resulted in producing wells with an initial production of 5339 barrels per day. The remaining eight completions were failures.

Another Test To Be Drilled at Anahuac

Houston.—Humble Oil & Refining Company has made another location in the Anahuac area of Chambers County, where it discovered a new field sometime ago.

Broussard 1, the new location, is located 466 feet out of the northwest corner of H.&T.C. Survey, Section 63. The same operator's Clark 1, west offset to the discovery well, was making a drill stem test at 985 feet at the close of the week, testing water sands found at that depth. The operator's Middleton 2, 1000 feet southwest of the discovery well was a derrick.

Since the discovery of the new field, an extensive lease play has been in progress outside of Humble Oil & Refining Company's 9500-acre block. Acreage is being taken by Shell Petroleum Corporation, Gulf Production Company and Humble Oil & Refining Company. Several independent operators also have been active in the area. Rycade Oil Corporation is the only oil company to hold any acreage in Humble Oil & Refining Company's block. The corporation has approximately 240 acres in the area.

To the south of Anahuac and along the coast of Galveston Bay, the area continues to be active with a number of independent operators doing the leasing.

Cleveland Field

Houston.—Gulf Production Company's R. D. McDonald 1, C. Smith Survey, on the west flank of the Cleveland field, Liberty County, was preparing to make another drill stem test at 5836 feet. The operators attempted a drill stem test from 5746 to 5761 feet but the seat failed to hole. The well however showed a 75-pound pressure with an odor of oil. The test had sands showing oil from 5825 to 5834 feet. The Camerina was topped from 5565 to 5570 feet.

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Liberty County Gets New Activity

Houston.—Turnbull & Irwin has made location on a unitized block in Liberty County. Katherine Mays 1, is located 1000 feet west of the east line and 270 feet north of the south line of 309.5-acre tract in the F. J. G. Smiley Survey. It is approximately four miles southwest of Rayburn.

Gulf Production Company, Sinclair Prairie Oil Company, and Atlantic Oil Company made a deal with Turnbull & Irwin to drill the test, donating acreage and cash for the operation. The wildcat will be drilled to the Cockfield formation.

To the northeast of Cleveland, A. L. Maxwell's Hincliff 1, H. & T. C. Survey, No. 105, was preparing to set 10-inch casing at 626 feet at the close of the week. Sun Oil Company is reported to have purchased 190 acres in the area for $10 per acre. And will take an additional 210 acres at the same price after the well has reached the contract depth.

In the Wm. Swail Survey, Sun Oil Company is reported to have renewed leases on 1030 acres. It is reported that the company took an additional 300 acres in the area for $12.50 per acre.

Third Eureka Failure Abandoned

Houston.—The third failure for the Eureka field of Harris County was reported during the past week when Eureka Oil Company's Varner Realty Company 1, was abandoned at 7781 feet.

The operators took a drill stem test from 7685 to 7781 feet and the well showed 1710 feet of salt water, one joint of sand with no oil or gas pressure. The test was made in 10 minutes through a quarter-inch choke on top and bottom.

The location is 400 feet north of the south line of 107-acre tract and 4175 feet west of the east line of J. Rienerman Survey being approximately 3750 feet southeast of the discovery well.

St. Bernard Parish

Lake Charles, La.—Emerald Petroleum Company made location for Lake Eugene Land Company 1, Shell Beach, on the south edge of Lake Borgne and about 25 miles southeast of New Orleans, Section 32-13s-15e, St. Bernard Parish.

Shell Takes 600,000 Acres in South Louisiana

Lake Charles, La.—Shell Petroleum Corporation has launched an extensive leasing campaign in South Louisiana. During the past six weeks the operators have taken 600,000 acres in the eastern part of the state and in the Atchafalaya flood basin.

In the eastern part of the state the leasing has been in St. James Parish, St. John, St. Charles, Assumption and in the Atchafalaya flood basin, Pointe Coupee, St. Landry, West Baton Rouge, Iberville, St. Martin and St. Mary Parishes. Most of the acreage is taken for exploration work.

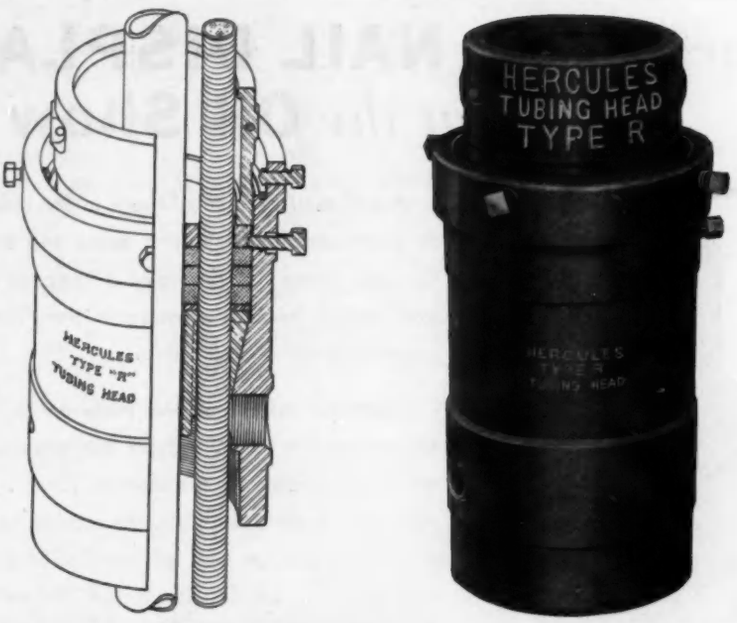
Avoyelles Parish

Lake Charles, La.—Southern Star Petroleum Company's I. G. Boyette 1, Section 28-3n-5e, Avoyelles Parish, was drilling ahead below 3579 feet at the close of the week after topping the Cockfield at 3509 feet and failing to show any thing of commercial value.

Texas Gulf Coast Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARBERS HILL—		
Bennett Prod. Co., Gulf Fee 1-C....	236	5260
Sun, Wilburn 17	85	3195
BIG HILL—		
Yount-Lee, Pipkin Davis 1	*	6341
CONROE—		
Houston-Tidewater, Cartwright 12 ..	273	5170
Strake Pet. Co., Keystone Mills 7..	100	5118
EUREKA—		
Eureka Oil Co., Varner Realty Co. 1	*	7781
HULL—		
Republic, Dolbear 108 (wo)	265	2492
Dolbear 145	*	2734
MANVEL—		
Texas Co., A. R. G. C. H. 3.....	168	4045
Thompson Drlg. Co., McCauley 1 ..	240	3983
MOSS BLUFF—		
Gulf Coast Sulphur Co., R. B. McManns 1	*	900
MYKAWA—		
Danciger O&R Co., Minnetex 2....	630	4860
Harrison & Abercrombie, Gehering 1 (wo)	15	4876
PIERCE JUNCTION—		
Navarro Oil Co., Cain 2-A (wo) ..	50	4903
RACCOON BEND—		
Humble, H. F. Cranau 2	865	4137
A. Grawunder 2	*	4170
Wilson 7	75	4324
SOUR LAKE—		
Texas Co., Fee 318	15	1561
SPINDLE TOP—		
Yount-Lee, Gladys City 66 (wo)...	*	5169
TOMBALL—		
Humble, M. H. Gossett 2	465	5558
H. Scherer 1	489	5592
THOMPSON—		
Gulf, F. I. Booth 1	48	5400
F. I. Booth 24 1320		5250
BRAZORIA COUNTY—		
Amerada, Houston Farms Dev. Co. 1, s of Liverpool, L. G. Bachelder sur	*	7663
GRIMES COUNTY—		
H. L. Patton, Yeager 1, nw of Iola, A. Briscol sur	*	1060

*Failures; †Junked; ¶Million cu. ft. gas.



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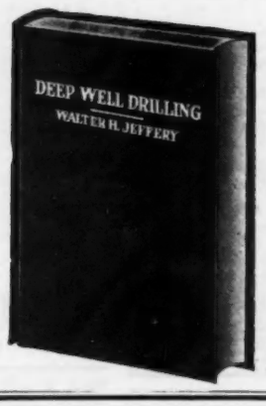

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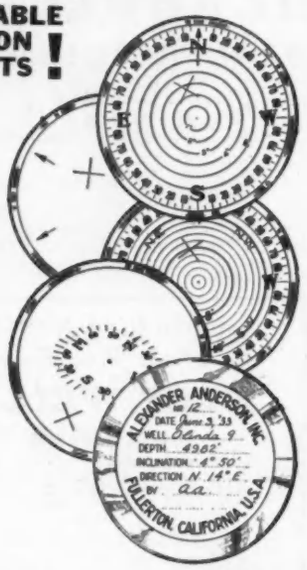

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Four New Bosco Producers Completed

Lake Charles, La.—Four new producers were added to the Bosco field of Acadia and St. Landry Parishes. Superior Oil Producing Company completed Comeaux 5, P. O. Hernandez 6, L. Johnson 2 and M. Lavergne 1, during the past week.

Comeaux 5 was completed for 554 barrels in 21 hours through a 10/64-inch choke with a tubing pressure of 1200 pounds; casing 1475 pounds. The well is producing from the second Marginulina sand and the bottom of the hole is 8711 feet.

P. O. Hernandez 6, established a new completion record for the field. The well was spudded in on March 13, 1935, and was completed on February 3, 1935. A total of 21 days to complete this 7849-foot test. This included setting of casing and a three-day fishing job. The well made on the first five-hour gauge 48 barrels of oil through a nine sixty fourths-inch choke with a tubing pressure of 1050 pounds; casing 1150 pounds. The well had not finished cleaning itself at the close of the week. It is producing from the Discorbis sand.

L. Johnson 2, was completed from the second Marginulina sand with the bottom of the hole at 8663 feet. The well made on the first 21-hour gauge 393 barrels through a nine sixty fourths-inch choke. On a two-hour gauge the well made 69.35 barrels through a fourteen sixty fourths-inch choke.

M. Lavergne 1, which extended the field to the northwest, was completed in the second Marginulina sand at 8719 feet. The well made 414 barrels on the first 21-hour gauge. The flow was through a 10/64-inch choke. The operators have been drilling on this well for some time.

Superior Oil Producing Company's J. S. Arceneaux 3, near Arceneaux 2, Section 33-8s-3e, was tested at the close of the week and flowed salt water from 8714 feet. Oil sand was topped at 8696 feet.

The operators have made location for La Blanc 2, 1699 feet south and 937 feet west of the northeast corner of Section 23-8s-3e.

Tanipahoa Parish

Lake Charles, La.— R. A. Conklin's Lake Superior Piling Company 1, five miles northeast of Natalbany, Section 19-5s-9e, Tanipahoa Parish, made a drill stem test from 3031 to 3063 feet and recovered fresh water. The well is now drilling ahead.

The test had ash and sand from 3029

to 3050 feet and from 3050 to 3063 feet the well had a slight odor of oil. A drill stem test was attempted but the seat failed to hold. Pascagoula Miocene was topped at 2350 feet. Elevation is 105 feet.

Attempts to Blowout

Lake Charles, La.—Humble Oil & Refining Company's American Rice Milling Company 1, south of the Cowley field, Section 27-10s-2e, Acadia Parish was waiting on cement to set at 8429 feet after plugging back from 9139 feet. At the last mentioned depth the operators twisted off a drill stem. While taking a core at 9139 feet the well tried to blow out. This wildcat topped the Large Discorbis from 8540 to 8560 feet.

Calcasieu Parish

Lake Charles, La.—Wheeler Oil Company's W. B. Gabbert 1, east of Lake Charles, Section 28-9s-7w, Calcasieu Parish, was abandoned during the past week at 8696 feet.

Cameron Parish

Lake Charles, La.—The Texas Company's Jessen 1, one mile south of Calcasieu Lake, Section 24-14s-10w, Cameron Parish, was abandoned at 9030 feet after failing to show anything of commercial value.

St. Mary Parish

Lake Charles, La.—E. C. Anderson of Shreveport is reported to be assembling a block at the mouth of the Atchafalaya river in St. Mary Parish. The operators have 6000 acres to date.

South Louisiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BAY ST. ELAINE—		
The Texas Co., State Bay St. Elaine 9	*	6420
BOSCO—		
Superior Oil Prod. Co., Comeaux 5	624	8711
P. O. Hernandez 6	240	7849
L. Johnson 2	456	8663
M. Lavergne 1	480	8719
GILLIS—		
Fohs Oil Co., Castle 3	*	7235
Castle 4	*	7272
LEESVILLE—		
The Texas Co., L. L. E. Leesville 30	434	3669
PORT BARRE—		
Gulf Refining Co., Wilson Cochrane 11	¶2	3065
CALCASIEU PARISH—		
Wheeler Oil Co., W. B. Gabbert 1, e of Lake Charles, sec 28-9s-7w..	*	8696
CAMERON PARISH—		
The Texas Co., Jessen 1, 1 mi s of Calcasieu Lake, sec 24-14s-10w..	*	9030

*Failures; †Junked; ¶Million cu. ft. gas.

Washing in Second South Gillis Well

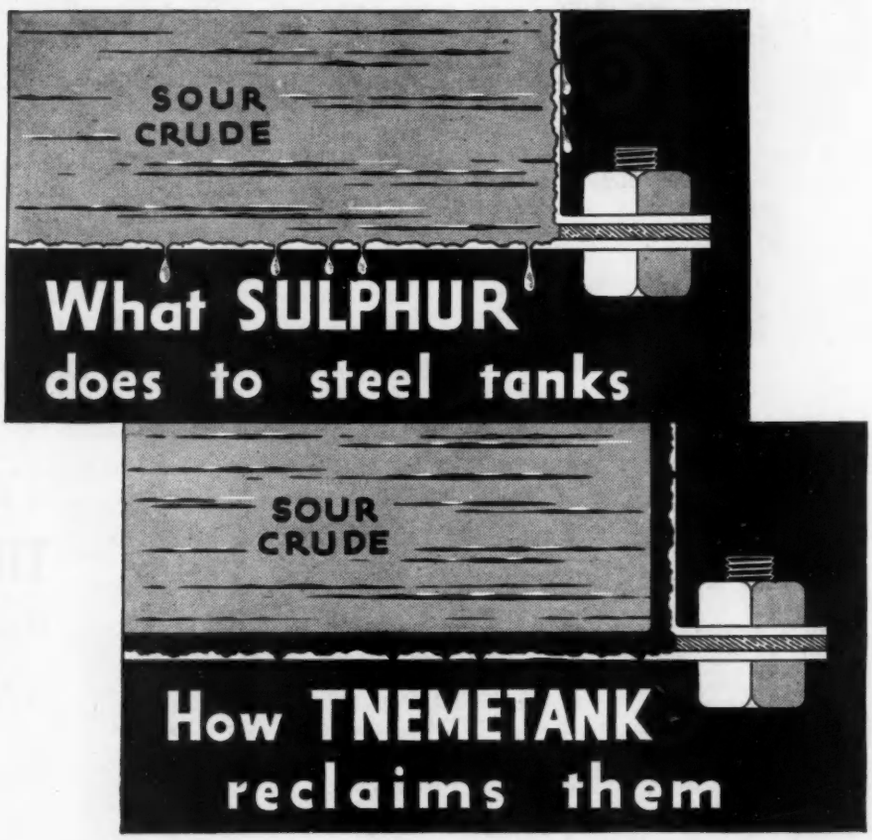
Lake Charles, La.—Fohs Oil Company's Castle 2, quarter mile southwest of the Fohs Oil Company's Castle 1, Gillis, Section 14-9s-8w, Calcasieu Parish, was washing in at the close of the week. This well will be the second producer for the southern division of the Gillis field.

The bottom of the hole is 7041 feet with oil sand topped at 7010 feet. On a core from 7026 to 7031 feet the well had a good showing of oil. From 7010 to 7014 feet another good showing of oil was encountered. An electrical logging device showed 12 ohms from 6952 to 6979 feet. Seven-inch casing was set at 6996 feet. The well will produce from the Marginulina formation.

The first two disappointing factors for the southern division for the Gillis field was the abandonment of Fohs Oil Company's Castle 3 and 4.

Castle 3 was abandoned at 7235 feet and Castle 4 was plugged at 7272 feet. The wells are located one and two locations east of the discovery well. The operators have definitely determined the faults in the field.

Union Sulphur Company's Buhler 1,



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1000 feet southwest of the discovery well, Section 11-9s-8w, cored sand showing gas from 7445 to 7458 feet. At the end of the week it was coring ahead below 7471 feet.

The same operator's Castle 1, 500 feet north of Fohs Oil Company's Castle 1, Section 13-9s-8w, was drilling in salt water sand at 7441 feet and Castle 2 was down to 7025 feet.

Making Acid Study In Monroe Gas Field

Monroe, La.—The minerals division of the Louisiana Conservation Commission, which last November halted the use of acid in the Monroe gas field where this type of operation had become general, is now conducting a series of experiments on ten wells in this field using acid to determine its effect on the wells treated and on nearby wells.

Besides studying the effects of the acid on the output of the wells treated which are in different parts of the field, the production curve of nearby wells will be carefully plotted to determine the effect and the minerals division will be governed largely by the results in making its decision as to whether use of acid will be resumed there or not. The experiments are expected to go on for several weeks.

Deep Drilling Increasing in North Louisiana and Arkansas

Shreveport, La.—North Louisiana and south Arkansas can expect more drilling below present producing horizons than it has seen in the past, within the next few months, according to present indications.

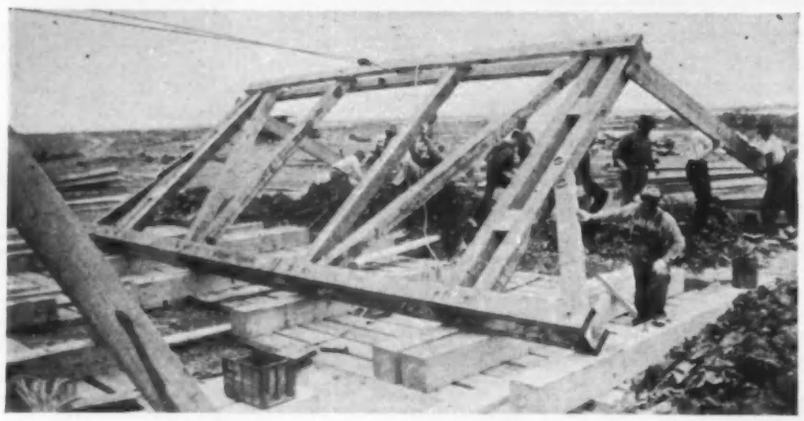
This territory has seen no deep drilling worthy of the name and wells in these two states that go to 5000 feet are regarded as "deep tests." Wells below 6000 feet have been exceptional and only three holes have gone below 7000 feet, two of the latter being in North Louisiana and one in Arkansas.

It is reliably reported that word has gone forth from executives of several major companies that surveys of possibilities of deeper production in present fields and future reserves in this area shall be made.

Latest indication of plans for deeper drilling is the common report that Ohio Oil Company and other majors having production in Cotton Valley, Webster Parish, plan a test in that field to 8000 to 10,000 feet. Work on getting acreage and appropriations for this project are known to have been under way for several weeks.

One of the two North Louisiana tests to go below 7000 feet was in the Cotton Valley field. This was Magnolia Petroleum Company's McCook and Hibbler 1, Section 22-21n-10w, which went to 7002 feet before being abandoned as a salt water hole. A rich oil sand was cored a few feet above the point where the hole was eventually abandoned and a bad casing job was largely blamed for this failure. However, this well indicated that some of the sands of the Trinity in that field are laminated oil and salt water sands alternating.

North Louisiana's other test going below 7000 feet was R. L. Gay, Trustee's Long-Bell Lumber Company A-1, NW NW 10-8n-13w, which went to 7154 feet. This test encountered a good oil show in oolitic lime of the Glen Rose at 4775 feet but casing was believed to have been dropped to bottom



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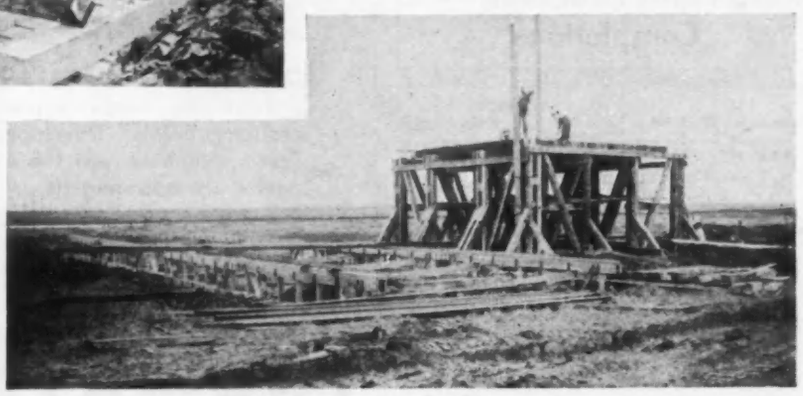
HOUSTON OIL SHOW
April 8-13

Left: Raising assembled truss into position. Below: Structure complete and starting up with derrick legs.



Timber sub-structures now offer advantages over any other material available to the Oil Industry. Engineering advancements, like Modern Ring Connectors, plus advanced methods of grading select cuts of dense structural pine (subject to inspection at the mill) has made available to users the natural advantages of wood structures, as the resilience of wood and its ability to stand overloading. Users are now dealing with known fibre stresses in designing timber structures, and the salient features of engineering control of design and materials used are now applied to timber structures. The portable feature, the high salvage feature, quick erection and dismantling, are features of which users may now take advantage.

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of the hole when run, shutting off the possibility of getting production. The well was then drilled to 7154 feet and plugged back and sidetracked at 4775 feet but salt water appeared and the well was abandoned.

South Arkansas' only 7000-foot test was Lion Oil Refining Company and associates' Hayes A-9, Section 4-16-15, in the Smackover field of Union County, that went to pure rock salt at 7255 feet where the bit was "frozen" and the well abandoned. Some determinations indicated the salt at bottom of the hole was Permian in age.

At the present time two tests are drilling for 7000 feet or deeper in Union County. Gulf Refining Company is drilling close to 4000 feet in Werner Iumber Company 49, Section 5-16-16, in the Smackover field, for an 8000-foot test. In the Rainbow City field, H. L. Hunt, Incorporated, is drilling below 6200 feet on E. F. Gregory 15, Section 10-17-14, planned for a 7000-foot test. It is also reported that Gulf Refining Company plans an 8000-foot test in the old Pine Island field, Caddo Parish, which is expected to be drilled on the Ferry Lake lease.

Nine Louisiana Drilling Permits

Shreveport, La.—Nine drilling permits were issued last week by the minerals division, Louisiana Conservation Commission. Three of the permits were for North Louisiana parishes as follows: Caddo, one; Madison, one, and Union, one.

The other six were divided among the following South Louisiana parishes: Cameron, two; Iberia, three, and Jefferson Davis, one.

North Louisiana Drilling Increases

Shreveport, La.—Ten new locations, four of them for wildcat tests, were added to North Louisiana drilling reports last week.

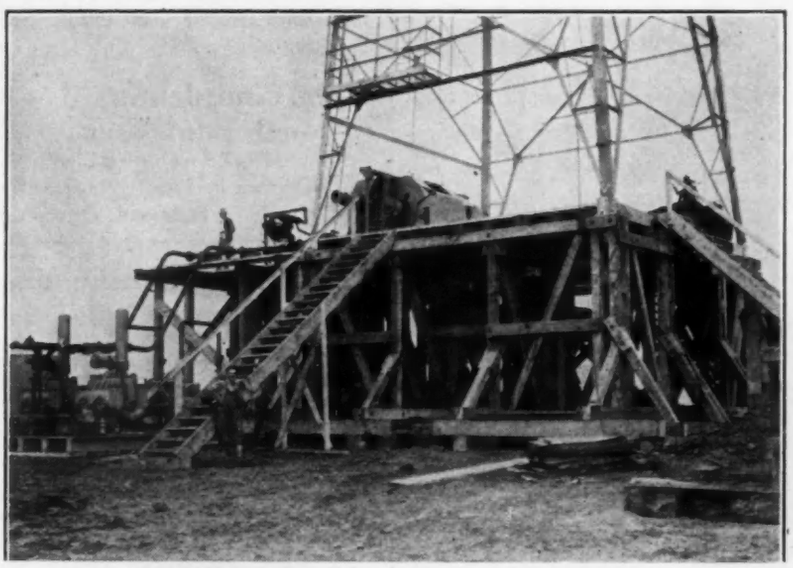
In Bossier Parish, two miles south of Plain Dealing, and about 14 miles southwest of the Cartersville oil and gas field, Richplain Oil Company has derrick up and is moving in rig for a wildcat test.

In the old Pine Island field of Caddo Parish, now the most active North Louisiana field, four new locations were made as follows: Nick Babare's Gibbs 1, NE SE 16-20n-15w, derrick up and moving in rig; Murray Oil Company's J. S. Noel 1, NW SW 15-20n-15w, spudded; G. R. Stevens' Hart 3, SE SW 22-21n-16w, derrick; and C. A. Tooke's Gibbs 1, NE SE 16-20n-15w, derrick.

Seven miles east of production in the old Pine Island field, Simplex Oil Company has derrick up for Keith 1, SW SE 18-20n-14w. In the Rodessa gas field, Caddo Parish, United Gas Public Service Company made location for I. L. Young 1, center east half SE 21-23n-16w, an outpost test to the southwest of production. The same company has derrick up for R. V. Kerr Unit A-1, NE NE 24-17n-12w, on the southeast edge of the Sligo gas field, Bossier Parish.

Approximately five miles west of production in the old Naborton field, De Soto Parish, Flesh and Hootkins have derrick up and are moving in rig for a wildcat test, J. S. Farmer 1, NW SE NE 14-12n-13w, about three miles east of the town of Mansfield.

Twelve miles east of production in the Monroe gas field, Alex Rice, Trustee, has derrick up for Meyers 1, Section 15-22n-7e. This test is in the same section in which The Texas Company several years ago drilled a test on the same lease to total depth of 2940 feet and had an interesting oil show. In Section 22-22n-7e, Woodley et al's Harp 1 drilled to 3060 feet reported a gas showing in the same horizon.



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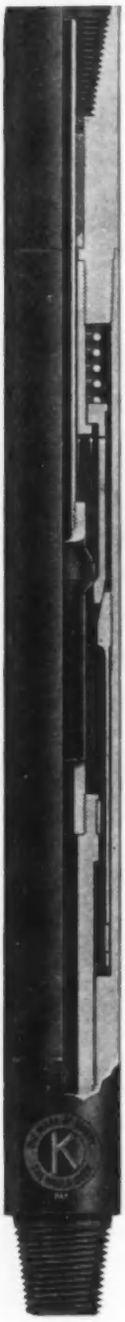

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Bossier Parish Pipe Line Planned

Shreveport, La.—Arkansas-Louisiana Gas Company is making preliminary plans for a 10- or 12-mile pipe line from the Sligo field, Bossier Parish, to join its Monroe-Shreveport 20-inch trunk gas line probably near Princeton, Louisiana. Options for rights of way have been secured but company officials said the type of line and its size has not been decided upon. Recent discovery of new gas producing horizons at 2800 and 4200 feet in Sligo has greatly increased activity and production there. The chief operators in the field are Arkansas-Louisiana Gas Company and United Gas Public Service Company.

Eight Completions In North Louisiana

Shreveport, La.—One small oil well in the chalk rock horizon of the Pine Island field, Caddo Parish, and three gassers, were the only commercial wells among North Louisiana's eight completions last week.

One of the abandonments was J. Phillipi and associates' Louisiana Central Lumber Company 1, NW SE 2-9n-6e, Catahoula Parish, "in the trend," which had blown out making about one and one half million cubic feet of gas at 936 feet, after being plugged back from total depth of 3016 feet. Salt water that appeared soon killed the gas flow which at first was variously estimated at five to 20 million feet. By its action it followed the history of two other tests drilled in the same horizon. This test was originally drilled by Robinson and Greer.

North Louisiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Pine Island)—		
G. R. Stevens, Hart 2, sw ne sw 22-21n-16w	*	1023
Gulf, W. D. Chew Fee 8, 33-21n-16w	89	1825
CATAHOULA PARISH—		
Phillipi et al, La. Cent. Lbr. Co. 1, 2-9n-6e	*	3016
DE SOTO PARISH (Naborton)—		
W. T. Coleman, Billie Hill 1, sw nw ne 19-12n-11w	¶1	894
C. T. Ruffin, J. M. Nabors 1, se se 32-13n-11w	*	2775
MOREHOUSE PARISH (Monroe)—		
Carbons Consol., Goodwin 1, 20-21n-5e	¶1¼	2264
OUACHITA PARISH (Monroe)—		
J. E. Farrell et al, State of La. 1, 49-20n-4e	¶1½	2098
SABINE PARISH (Converse)—		
Lawson, Leavell & Bryant, Whitney Corp. 1, sw ne sw 5-9n-13w	*	3409

*Failures; †Junked; ¶Mil. cu. ft. gas.

Rainbow City Deep Test Drilling Ahead

El Dorado, Ark.—H. L. Hunt, Incorporated's E. F. Gregory 15, Section 10-17-14, Union County, Arkansas, a 7000-foot test in the Rainbow City field, last week logged base of red beds at 5937 feet, and later was drilling lime and shale at 6266 feet; elevation is 180.4 feet. Seven-inch casing recently was cemented at 5834 feet after anhydrite and red shale were logged from 5796 to 5868 feet.

Gulf Refining Company's Werner Lumber Company 49, SW NW SW 5-16-16, an 8000-foot test in the old Smackover field, is drilling below 3990 feet.

Joe Modisett et al's D. G. Sturdivant 1, 6-18-13, a 5000-foot wildcat in Union County, is drilling sandy lime at 4017 feet.

Say Joe,

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They're roomy and comfortable; warm and dry. They're built soundly and look like a house that will stand for years.

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HOUSTON
READY-CUT HOUSE CO.
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One Oil Well Last Week in Arkansas

El Dorado, Ark.—One well flowing 150 barrels of oil daily through two-inch tubing was completed last week in the Urbana district, Union County, it being the only commercial well among three completions in Arkansas.

Three miles northeast of production in the Garland City field, Miller County, and a northwest offset to a commercial well estimated at initial of 30 to 60 barrels daily that pre-dated by several months the discovery well in the Garland field proper, C. V. Lenz abandoned Dale 6, SW SE NW 24-15-26, Miller County, as a salt water hole at 3002 feet. Lenz drilled the well that pre-dated Garland City as a producer but five offsets including the present abandonment have failed to produce.

Seven miles southwest of the lone producer in the Camden area, Ouachita County, S. J. Carnes abandoned a test as dry at 2125 feet. An east offset to the Camden discovery well, which was T. J. Gaughan and associates' M. Bragg 1, Section 25-13-18, last week was shut down after failing to get production in the Nacatosh from which the M. Bragg 1 was a producer at total depth of 1394 feet. The well offsetting it to the east is T. J. Gaughan and associates' M. Bragg 3, SW NE SE 25-13-18. This will give failures east, west, north and south offsetting the producer.

Arkansas Gets Three New Starts

El Dorado, Ark.—Three new locations, two of them for wildcat tests, were announced last week in Arkansas. Plans for deepening another test were also announced.

In Ouachita County, three miles northwest of the lone producer in the Camden area, Charles Steele and associates are rigging. H. W. Myer Estate 1, SE SW SE 16-13-18.

In Nevada County, six miles west of the Irma field, Garnett and associates made location and have spudded Floyd Munn 1, SW SW 16-14-22.

In the Urbana field, Union County, Marine Oil Company is rigging W. B. Thompson E-4, NE NW NE 10-18-13.

In the Rainbow City field, Union County, Ohio Oil Company is rigging up to deepen to the Taylor sand its R. Furlong 2, SW NE 12-17-14, one and one half miles east of Taylor production. In the same field, G. H. Vaughn has abandoned location for Rowland 1, NW NW 14-17-14.

RAYMOND WIGGINS has recently been appointed lease man for Amerada Petroleum Company in the South Louisiana Gulf Coast.

Arkansas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MILLER COUNTY (Garland City)—		
C. V. Lenz, Dale 6, sw se nw 24-15-26	*	3002
OUACHITA COUNTY—		
S. J. Carnes, L. Caldwell 1, nw nw 12-14-19	*	2125
UNION COUNTY (Urbana)—		
Marine Oil Co., W. B. Thompson A-7, se sw se 3-18-13	150	3582

*Failures; †Junked; ¶Mil. cu. ft. gas.

Southern Mississippi Geophysical Work Increase

Jackson, Miss.—Gulf Research Corporation is moving a pendulum party of 30 men into Stone County, South Mississippi, to do work on holdings of Gulf Refining Company. This makes three types of geophysical work being done by this company on its South Mississippi holdings, as seismograph and magnetometer work are already being done.

Gulf Refining Company's Dantzler 6, a test drilled recently to total depth of 7581 feet in Stone County, is reported to have logged the chalk and was running

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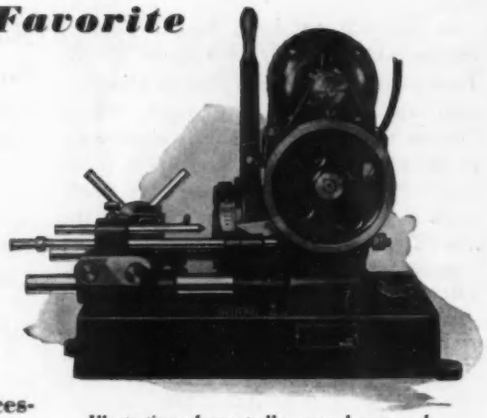

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higher than the normal dip. The pendulum party is coming from Southeast Lonisiana, where it has been working in Washington and St. Tammany Parishes. Engineers have already done preliminary work in Stone County.

United Gas Public Service Company, which has extensive holdings in Southeast Mississippi, is doing seismograph work in Greene and George Counties, between Lucedale and Lakesville.

George E. Failing Supply Company of Houston, Texas, also has a party in the same general area.

In Southwest Mississippi, J. C. Vaughn is leasing in southern Wilkinson County. In the past Vaughn has turned several blocks to Sun Oil Company.

The Texas Company has placed 480 acres of leases in Lamar County, South Mississippi, in township 5 north, range 15 east, paying $2 per acre for the leases from the J. J. Newman Lumber Company, for a 10-year lease with 25 cents rental.

Geophysical Party In Southwest Tennessee

Memphis, Tenn.—Binswanger and associates, who recently took leases on a block of 100,000 acres in southwest Tennessee in Fayette, Hardeman and Haywood Counties, have signed a contract with Geophysical Service, Incorporated, of Dallas, Texas, for seismograph work on the block, which if satisfactory, will result in the drilling of four tests. Magnetometer work on some of this acreage was done in 1929 by William Barrett of Shreveport.

Interested with Binswanger are George Greer of Dallas, Texas; Ward Delaney of Shreveport; D. C. Schaffer and others of Memphis.

Mountain States Completions

NEW MEXICO

Company, Well and Location	Init. Prod. Bbls.	Depth
SAN JUAN COUNTY—		
Continental, Rattlesnake 42, sw ne nw 12-29n-19w	70	833
LEA COUNTY (Eunice field)—		
Humble, State 2-B, cse nw 29-21s-36e	¶1-5000	3914
LEA COUNTY (Hobbs field)—		
Capitan Oil Co. (Noble & Co.), Turner-Townsite 1, se¼ 34-182-38e	¶18-19,150	4215
Shell, State 2-D, cne nw 24-18s-37e.	8345	4260

MONTANA

GLACIER COUNTY (Cut Bank field)—		
R. C. Tarrant, Connolly 1, cne se 31-34n-5w	160	2796
Consolidated Gas Co., Tribal 4, Lot 8, 34-35n-6w	100	2962
TOOLE COUNTY (Kevin-Sunburst field)—		
Wm. Fulton, Halter 1, ne ne se 17-35n-2w	*	1750

*Failures; †Junked; ¶Mil. cu. ft. gas.

Additional Drilling Required By Lee County Completions

Hobbs, New Mexico.—Four offsets will be required of operators on the northwest edge of the Hobbs field as result of the successful completion of Shell Petroleum Corporation's State 2-D, C NE NW 24-18s-37e, for a potential flow of 8344 barrels of oil daily after treating lime with acid at 4260 feet, or 582 feet below sea level. An allowable of 231 barrels daily was earned by Noble & Company (Capitan Oil Company's) Turner 1, Hobbs Townsite well reported completed previously with a potential rating of 19,152 barrels of oil and 18,000,000 cubic feet of gas after treating lime pay at 4140-4215 feet, or minus 589 feet, with 6000 gallons of acid in two separate injections. Two wildcats and a pair of outpost locations for the Eunice field were included among the six new tests authorized for Lea County the past week.

Atlantic Oil Producing Company and Simms Oil Company's State 1-C, C SW SE 5-21s-36e, advanced production in the Eunice field one location to the north in flowing 300 barrels daily after shot of 270 quarts of nitro in lime at 3825-3894 feet, or 305 feet below sea level. The well will be treated with acid. An offset to the east has been staked by the partnership, while Atlantic Oil Producing Company has moved one location to the northwest in starting operations on its State 1-E, C NE SW 5-21s-36e. Amerada Petroleum Corporation's H. L. Houston 1, C SE NE 7-21s-36e, is a new location on the northwest side of the field. Humble Oil & Refining Company's State 2-B, C SE NW 29-21s-36e, situated on the southeast side of the field and in doubtful territory, proved to be one of the largest producers in the field through having gauged 132 barrels of oil in two hours flowing through one-inch choke on tubing, with 200 pounds back pressure, from lime at 3880-3914 feet. It has a sub sea depth of 265 feet, an unusually high structural position for the area.

An important southeast extension for the North Jal field was in process of completion last week after a blowout heralded the probable completion of a better than average producer for the area. J. M. Rush-Trinity Drilling Company's M. F. Sholes 1, C NE NE 24-25s-36e, scored this extension in flowing at rate of 1000 barrels daily with about 25,000,000 cubic feet of gas from lime at 3257-3265 feet. Seven-inch casing had been cemented at 3256 feet. The well was brought under control without difficulty, and deepened to 3274 feet, or 153 feet sub sea. Packer is to be installed on tubing to try and reduce the gas-oil ratio. Repollo Oil Company's Gloyd 2, NWc SE¼ 12-25s-36e, which was reported last week as showing 70 to 85 percent water after treating lime at 3325 feet, or 146 feet sub sea, with acid, remained shut in the past week pending the completion of a treating plant.

Amerada Petroleum Corporation has moved in materials to drill R. L. Dyer 1, SWc NE 31-25s-37e, situated near production in the South Jal area.

Jeffers Oil Company, which is affiliated with the Anderson-Prichard Oil Corporation, Oklahoma City, has made location for two wildcats to be drilled in western Lea County on Government permits assigned by Continental Oil Company and The California Company. Etz 1 is located at C NE SW 12-21s-32e, and Jiminez 1 is to be drilled at C SW SE 11-20s-33e.

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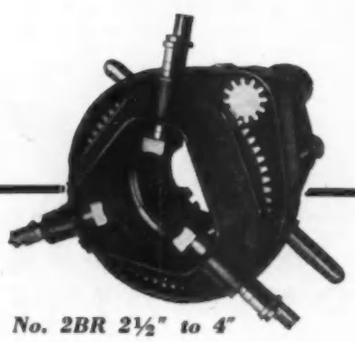

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Byron Field Well Makes 400 Barrels

Lovell, Wyo.—The Ohio Oil Company's William Hoskins 1, SW SW SW Section 14-56n-97w, in the Byron field, Big Horn County, northern Wyoming, was completed officially this week, when it pumped an average of 400 barrels daily on a 10-day production test. Hole bottoms at 5214 feet. In the same field, the company is building derrick for Sidon Canal 2, southwest corner of Lot 40, Section 24-56n-97w, a test to the Tensleep sand.

Peay Oil Company's (formerly Crosby & Huntington Syndicate) Denio Milling Company 1, Tract 43-C, Section 14-55n-97w, in the south fault block area of the Garland dome oil field, Big Horn County, is lowering 10-inch casing from 2900 to 3145 feet preparatory to testing a showing of 47 gravity oil encountered in 35 feet of sand between 3145-80 feet. The stray sand is approximately 70 feet above the Torchlight sand and 350 feet above the Peay (Wall Creek) sand, objective of the test. Hole was caving badly in the shale 40 feet above the top of the sand necessitating the lowering of the pipe.

Taylor Oil Company has fished out 1400 feet of drill stem and has only a few stands of pipe in the hole of Hoskins 1, SE SE Section 26-56n-97w, in the Byron field. Hole bottoms at 5275 feet just above the Tensleep sand.

Garland Oil Company is fishing for string of cable tools in Government 2-S, center south line NE NW Section 14-56n-98w, in the north fault area of the Garland field just across the line from Big Horn County in Park County. Hole bottoms at 2165 feet.

Cut Bank Work Takes New Spurt

Cut Bank, Mont.—With five new locations, the Cut Bank field, Glacier County, northern Montana, had its first spurt of activity for the year 1935. One oil well was completed this week in the field.

Olive Oil Company's Winkler 3, NW NE Section 35-35n-6w, swabbed 145 barrels initial from 2804 feet. It is estimated the well will make 75 barrels on the pump.

The new tests are as follow: Consolidated Gas Company's Tribal 6, CSW SW Section 10-34n-6w, cellar dug; Dakota-Montana Oil & Gas Company's Winkler 2, NE NW Section 26-35n-6w, rig on location; The Texas Company's Hinkle 6, NE NE Section 2-34n-6w, building rig; L. R. Hannah's State 1, Lot 5, Section 12-33n-6w, moving in material; Montana Power Gas Company's Bank 1, NW Section 27-36n-5w, moving in material.

A near completion is R. C. Tarrant's Connolly 1, CNE SE Section 31-34n-5w, which is drilling in with the hole bottomed at 2775 feet of oil in the casing. There is also considerable gas along with the oil. The test is an offset to two good producing wells.

Fist et al's Danen, Lot 10, Section 12-33n-6w, Cut Bank townsite, is plugging back from the Ellis-Madison contact at 3160 feet, where it had water, to complete in the Cut Bank sand.

Consolidated Gas Company's Tribal 4, Lot 8, SW SE Section 34-35n-6w, is drilling out plug with seven-inch production casing cemented at 2920 feet with 50 sacks.

Three Tests Start At Kevin-Sunburst

Kevin, Mont.—Three new tests started this week in the Kevin-Sunburst field, Toole County, Montana. A. E. Crumley is moving in material for Shaw 5, SE SW Section 35-36n-2w. The Texas Company's Swears 5, CSW Section 9-35n-2w, is moving in machine. E. O. Reickhoff is spudding Government 2, W½ SW NE Section 3-35n-3w.

Three wells in the field are near completions. Monopeg Oil & Gas Company's Dipple 3, S½ SW NW Section 28-35n-1w, is running six-inch casing to the top of the sand at 1350 feet. Ward & Cruise are drilling out plug with the 6⅝-inch production string set at 1609 feet in Thompson 1, NW SE Section 28-35n-3w. W. M. Fulton's Halter 1, NE NE SE Section 17-35n-2w, is acidizing at 1608 feet after plugging back from 1750 feet, where it had water in the Madison.

Public Lands Law Hearing April 8

Casper, Wyo.—Hearings on suggested changes in the O'Mahoney-Greever joint bill to amend the general oil and gas leasing act February 25, 1920, will be held, Monday, April 8, before the House Public Lands Committee at Washington, according to a telegram received by Rocky Mountain Oil & Gas Association here.

The association has appointed Harry H. Schwartz of Casper to present its suggested changes at the hearings. The association asks that the time on existing permits be extended until July 1, 1937, that the government oil and gas royalty be reduced and limited, that the proposed 25 cents per acre annual rental on permits be nonoperative for the first two years of the permit, and that preference rights for permit applications be granted to oil and gas prospectors carrying on costly geophysical and seismograph exploration.

St. George, Utah.—Arrowhead Petroleum Corporation will continue operations on its test on Bloomington dome, Washington County, Utah, despite the recent tragedy at the well site, it was decided at a meeting of the board of directors here this week. Two weeks ago 10 people were killed and three severely injured at a premature explosion when an attempt was made to shoot the test, located in NW NW NE Section 19-42s-11w. Hole bottoms at 3800 feet, where it is showing oil and gas.

Craig, Colo.—Stanolind Oil & Gas Company's Parkinson 28-X, southwest corner Section 22-4n-92w, in the Iles Dome field, Moffat County, Colorado, is drilling below 1750 feet.

New Huntington Beach Well Makes 1800 Barrels

Los Angeles.—Standard Oil Company obtained another good producer on its Pacific Electric lease, located along the ocean front across the Huntington Beach Townlot field, when No. 26 was completed on March 26.

Initial production was 1453 barrels per day of 23.1 gravity oil, cutting 11.0 percent. Production increased, however, until March 30 the well was flowing 1832 barrels, 23.2 gravity, cutting 8.4 percent. At that time flow was through one one-inch and one ¾-inch bean, with 250 pounds tubing pressure and 560 pounds casing pressure, and the well was making 4,197,000 cubic feet of gas.

Bottom of the hole is at 4320 feet and water is shut off with 8⅝-inch casing, cemented at 3625 feet. A total of 728 feet of 6⅝-inch liner, including 694 feet of perforated, was landed at 4319 feet.

New Producer for Old Torrance Field

Los Angeles.—The old Torrance field, 20 miles southwest of Los Angeles, came in for its share of attention during the past week when Severns Drilling Company tested Spring No. 1.

This well was placed on the pump on March 27 and started off at between 150 and 200 barrels per day rate, 19.0 gravity, cutting 10 percent. However, at the end of the third day water cut had increased to over 90 percent so the pump was stopped.

Total depth is 3780 feet, with 8⅝-inch casing cemented at 3494 feet. Operators state that the lower portion of the hole was salt sand and believe this to be the source of the high water cut. In order to shut off this lower zone a plug has now been placed at 3700 feet and cement is being allowed to harden before proceeding with the test.

26 Steel Derricks Up at Playa Del Rey

Los Angeles.—There are now 26 steel derricks up in the Playa del Rey extension of the old Venice field and three others will be up in a few days. Completions in this field are above the ordinary and a continued increase in operations is expected.

One new well the past week established a potential of 9307 barrels of 23 gravity oil, cut 3.2 percent. The figure given is the maximum, the best 24-hour period during the five-day test.

Union Oil Company completed Vidor 8 for 1350 barrels of 22.9 gravity clean oil through a 48/64-inch choke. The tubing pressure was 840 pounds and the pressure on the casing was 1030 pounds. The well was completed at 6156 feet and 6⅝-inch was cemented at 5965 feet. This well will likely make 8000 barrels when opened.

Production is being restricted at several wells due to the fact only one pipe line is serving the field and its capacity is limited. City regulations forbid the moving of oil from the field in tank trucks and only flow tanks are permitted.

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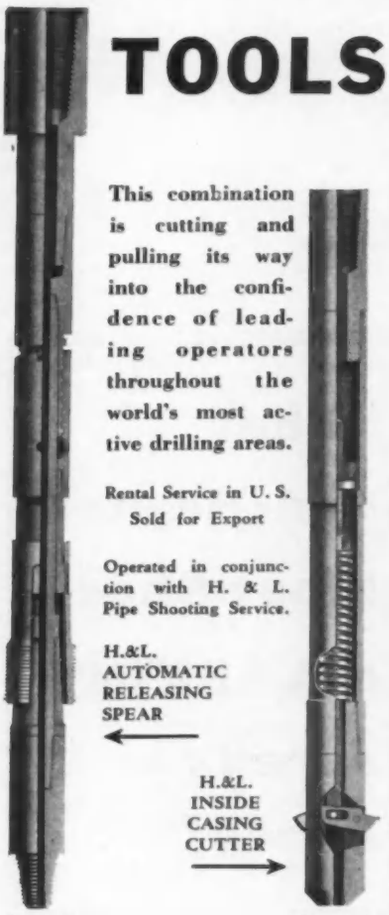

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Plan Eight New Wells for Kettleman Hills North Dome

Los Angeles.—As a direct result of the addition of 450 acres to the extreme northwest nose of the Kettleman Hills North Dome oil field, which was brought about by completion of Standard Oil Company's No. 21-19J, which was good for 9000 barrels of oil per day, at least eight new wells will be drilled there by Kettleman North Dome Association and Standard Oil Company.

Of the eight wells to be drilled, two will get under way at once. These will be drilled by the association, one described as No. 54-26Q, located on General Petroleum Corporation's holdings in Section 26-22-18, and the other, No. 54-24H, located on Union Oil Company-Belmont property in Section 24-21-16. A third well, No. 47-18J, will go down on Milham Exploration Company's land, Section 18-21-17, at the northwest end of the field. These first three wells are called exploratory projects.

Two other wells to be drilled by the association have been described as "development projects," one to be located in Section 18-21-17, on Milham holdings, which will be a direct offset to Standard Oil Company's No. 21-19J, and the second, No. 23-28J, in Section 28-21-17, in the Huffman area, which will go down on Pacific Western Oil Company's land opposite Superior Oil Company's Huffman lease, where eight large producers have been completed.

While recommending the drilling of these five association wells, the committee of engineers headed by C. M. Wagner of General Petroleum Corporation, also suggested that Standard Oil Company drill three wells. One of these is described as No. 2-27J, situated in Section 27-21-17, in the northwest portion of the field; the second as No. 82-7Q, in Section 7-22-18, in the central portion of the North Dome. The third well, location for which has not been staked, will be drilled in Section 1-23-18, the same section where Standard Oil Company's No. 54-1U is being drilled. When definite results are learned about the latter project, Standard Oil Company probably will make a location for the third well.

California Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LONG BEACH—		
Iris Oil Co., No. 10	200	7313
Pet. Prod. Corp., Mun 2	50	4085
Willow Oil Co., No. 1	180	3900
INGLEWOOD—		
Standard, Vickers 1-29	300	4090
HUNTINGTON BEACH—		
Standard, P.E. 26	1830	4320
Stevco Oil Co., Adele 1	90	3853
VENICE—		
D. W. Elliott, Del Rey 1	9300	6285
Union, Vidor 8	1350	6156
EDISON—		
A. T. Jergins Trust Horshey 3	90	1463
MOUNTAIN VIEW—		
Texas Co., Mateo Smith 5	1245	5408
Standard, Ranton 4	1260	5478
MOUNT POSO—		
Sheil, Vedder 19	240	2105
KERN COUNTY—		
Hogan Pet. Co., Symons 1	*	5885

*Failures; †Junked; ¶Mil. cu. ft. gas.

Taking Many Leases in New Arvin District

Los Angeles.—General Petroleum Corporation is building rig for Mattson 1, located near the center of Section 1-32s-29e, 15 miles southeast of Bakersfield, in the Arvin district.

Insofar as leasing activity is concerned, this area is one of the most active spots in California. Many of the major operators already hold extensive leases scattered throughout the district and a scramble is now on to obtain what little property is still available.

Michigan Severance Tax Increase Bill Is Killed

Mt. Pleasant, Mich.—Following a public hearing in the House, a bill proposing to increase the state oil and gas severance tax on production, has been killed in committee. Henry G. Hunt, executive secretary of the Oil and Gas Association of Michigan, and a number of leading oil operators, protested against the increase at the hearing.

At the present time production is taxed on a basis of two percent of the market price. The bill would have increased the tax to three percent.

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To Recondition Michigan Gas Gathering System

Mt. Pleasant, Mich.—The State Public Utilities Commission has approved an application made by Michigan Cities Natural Gas Company for a common purchaser permit in the Broomfield-Sherman gas area of Isabella County. As a result, V. W. McClintic, secretary-treasurer of the company, announced a $40,000 program of replacing gathering lines and improving their system in the field.

Michigan Cities Company has a contract with Consumers Power Company, natural gas distributors in Saginaw, Bay City and other towns, and as a common purchaser will be the only buyer in the area, selling to Consumers. The Utilities Commission approved a three-cent spread. At the present time Michigan Cities Company is contracting at the well head for 12 cents and selling to Consumers Power Company for 15 cents. Consumers operates the gas main from the field to its distribution points.

McClintic indicated that if present plans work out that his company will seek a common purchaser permit for the Millbrook-Hinton-Belvidire gas area farther west in the near future. The latter field is without a market for developed gas at the present time.

Shot Helps Livingston County Deep Gas Well

Mt. Pleasant, Mich.—Shot with 200 quarts of nitroglycerine, Talbot Oil Company's McPherson 1, Livingston County deep test, showed an increase from 220,000 feet of gas to 430,000 feet. It was shot at a depth of 3943 feet. Operators may abandon.

The test, located in Howell township, 3n-4e-35, originally was drilled to 5960 feet and then plugged back to the gas showing in the Monroe.

J. V. Wicklund's Neal 1, 16n-2w-13, Midland County, after showing oil, gas and water at 3999-4006 feet (Dundee 3827) was being drilled ahead the first of the week. At 4010 feet no increase was reported. The test is located eight miles south of the Whitehill-Kintner wildcat well in Gladwin County.

Injunction Dismissed in Michigan Pipe Line Suit

Mt. Pleasant, Mich.—Following a hearing March 28 in the Kent County Circuit Court, Judge Verdier dismissed an injunction against Pure Transportation Company et al stopping the pipe line company from connecting to certain oil well leases. The injunction was issued March 14.

The injunction was issued following filing of suit by Mid-West Refining Company of Grand Rapids and Alma against Pure Transportation Company charging collusion, unfair trade practices and restraint of trade. The plaintiff company charged that if Pure was permitted to connect to certain leases, then served by Simrall Pipe Line Company which supplies Mid-West Refining Company with crude, that the refinery's supply would be cut off and force suspension of the plant. The suit will be heard during the summer term of court.

Vernon and Leaton Pools May Be Connected

Mt. Pleasant, Mich.—New evidence of a connecting producing strata in the Dundee lime between the Vernon and Leaton pools in Isabella County was revealed when Wittmer Oil Company's Pollard 2, 14n-4w-1, Isabella County, encountered lime production at 3701-11 feet. The well is being tested and now swabbing from 10 to 30 barrels daily. It will be acidized. The Pollard test is located about midway between two older pools.

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Michigan's Most Important Strike Causes Big Campaign

Mt. Pleasant, Mich.—An active exploratory campaign in Crystal township (10n-5w), Montcalm County, which may reach 10 to 15 active rigs by the close of this week, was under way following a 3600-barrel oil strike by J. W. Leonard, Jr.'s Durbin 1 wildcat. The strike pitched Michigan to its highest point of excitement since early 1933, when the discovery well in the Porter township, Midland County, field was opened.

With the highest initial production of any Michigan discovery well and coming after several months in which no important developments had been made, the Leonard-Durbin test caused an unparalleled wave of excitement. The Crystal play is destined to get under way faster and with more operations than any area heretofore in the state. Acreage is held by both independent and major companies and is well checker-boarded throughout the district.

Located in Montcalm County 10n-5w-11 nw nw ne, approximately 30 miles south of Mt. Pleasant, production was first encountered in Dundee lime at 3190-97 feet, Dundee top 3189 feet, elevation 790 feet. At 3197 feet over a five-day test approximately 45 barrels of oil was bailed. Operators decided to deepen before a possible acid treatment and when drilled an estimated six inches to one foot, the test started to flow before tools could be drawn. The oil saver was sheared from the control head and without a master-gate operators were unable to shut in for 23 hours. It was shut in by McClanahan Oil Company's crew.

From 12:30 p.m., March 28, the well flowed continuously until shut in on March 29 at 11:30 p.m. With tools in the bottom of the hole, producing through 5 3/16-inch casing against 350 pounds back pressure with master gate one third turn open, A. J. Weideman, field umpire, made the only official gauge on March 30. His gauge showed on 20-minute checks over a 1½-hour period a daily potential of 3594 barrels. Oil samples ground out less than .6 percent of water after the third day's production. Gravity analysis showed 42.9 degrees.

Operators estimated that the well flowed open the first 23 hours more than 4500 barrels. The test rocked up from 350 pounds producing at a third open to 590 pounds when shut in for 10 minutes. Gas flow was estimated between five and six million feet.

The test marks the first important deep production discovery in the Central Michigan area off the more or less defined southeast trend on which the Vernon, Chippewa, Greendale, Yost-Jasper and Porter pools are located. It lays approximately 40 miles west of the other producing areas.

Montcalm County came into the Michigan development picture late in 1934 when Daily Crude Oil Company's Christensen 1, 12n-6w, was completed with a 450-barrel initial from the Traverse formation. Four other Traverse lime wells were developed in the same area while others were failures in an effort to define a pool. Work carried on to the present time indicated this pool of comparatively small extent.

Charley Clark, vice president and James Leonard, general manager of Leonard Drilling Company

Following the uncovering of Traverse production four deep tests were drilled in widely separated areas of the county. All were abandoned.

In Ferris township, 11n-5w, the township bordering Crystal on the north, two deep tests were put down.

The Leonard-Durbin test was the first made in Crystal township and until time

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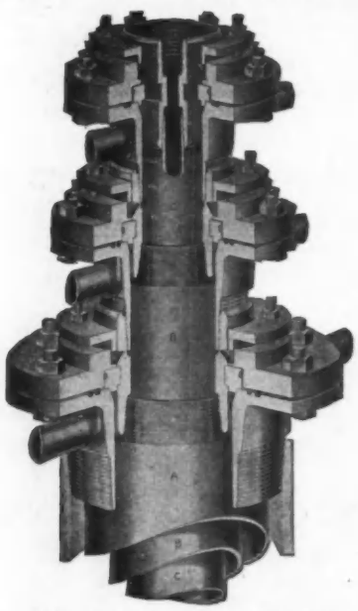

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Michigan Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ISABELLA COUNTY—		
J. W. Leonard, Demski 2, 15n-3w, sw se se-28	40	3631
Wittmer Oil Co., Pollard 2, 14n-4w, sw sw-1	30	3711
MONTCALM COUNTY—		
J. W. Leonard's Durbin 1, 10n-5w, nw nw ne-11	3594	3198
MECOSTA COUNTY—		
Gordon Oil Co., Tiffany 1, 13n-7w, sw ne-32	¶7	1252
GRATIOT COUNTY—		
Chas. Weller, Baker 1, 9n-3w, nw sw nw-9	*	3200

*Failures; †Junked; ¶Mil. cu. ft. gas.

has been given to drill a number of others there will be little check on the extent of the pool or little to indicate its trend.

J. W. Leonard, Jr., chief interest holder in the well, was vacationing on the Pacific Coast when the strike was made but was expected back here this week. With him are associated his brother, James, Charley Clark, R. A. Ralph, Bernie Jones, John Martin, and other smaller interest holders. The Leonard brothers are the sons of J. W. Leonard, Sr., now in Europe, veteran Pennsylvania operator. James Leonard and Charley Clark, who head Leonard Drilling Company, were contractors on the well.

Pipe Line Outlets

Both Simrall Pipe Line Company and Pure Transportation Company are contracting the production from the well. Simrall, April 1, started an eight-mile pipe line to Riverdale to the Pere Marquette Railroad and at the same time Pure started moving in pipe for a six-inch line to Vestaburg, eight miles from the well. Oil is being handled by trucks until the lines are completed.

The well is located about two miles from the village of Crystal, a summer resort town and within eight to 10 miles of both Pere Marquette and Grand Trunk Railroad Company lines. It is 30 miles west of Mt. Pleasant where most of the operating company offices and supply houses are located Good state and federal highways serve the area.

Whether the development program now slated for the district will be delayed for submission of a development plan to the Planning and Coordinating Committee could not be immediately determined. As yet no prorate restrictions have been laid down for the well.

Major acreage holders in the area besides the Leonards include Pure, Shell, Eastern Gulf, Dapar, Ohio Producing and Refining, John F. Martin and McClanahan Oil Companies. McClanahan Oil Company was the first to make a location following the strike moving in a rig the second day on the Flint 1, three locations west of the Durbin well.

Eastern States Fields Completions

PENNSYLVANIA

Company, Well and Location	Init. Prod. Bbls.	Depth
GREENE COUNTY—		
Carnegie Nat. Gas Co., Gordon 2...	¶	3244
WASHINGTON COUNTY—		
Nat. Gas Co. W. Va., Ealy 1.....	¶	1350

WEST VIRGINIA

CALHOUN COUNTY—		
McIntosh, W. E. Stump 1	¶	2610
A. Rothwell, T. H. Sturms 1	2	2295
ROANE COUNTY—		
Kenny M. Hunt Oil Co., Murray 1..	¶	1635
RITCHIE COUNTY—		
Clem S. Morris, W. E. Cox 1.....	¶	1844
H. H. Gainer, F. L. Lambert 1....	¶	1875

SOUTHEASTERN OHIO

NOBLE COUNTY—		
T. & C. Rich, C. M. Hutchinson 3.	¶	1400
Wm. Patton & Co., J. B. Hutchinson 4	¶	1430
MONROE COUNTY—		
Gordon Green & Co., Eliza Baker 3.	¶	1400
N. T. Stout & Co., Lawrence Gallagher 1	¶	1317
WASHINGTON COUNTY—		
Mary Wicckens & Co., Wm. Davidson 1	10	1027

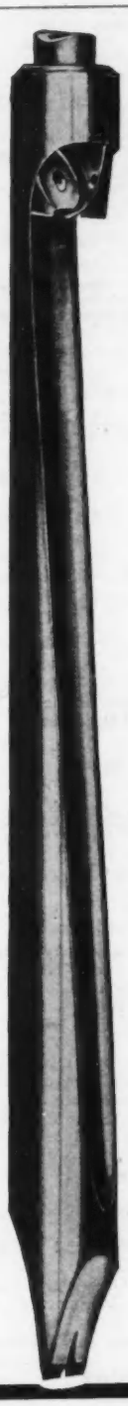
CENTRAL OHIO

ATHENS COUNTY—		
Ohio F. G. Co., H. K. Winters 1..	¶	1250
Bowman Bros., Lyle E. Harris 1...	*	826
ASHLAND COUNTY—		
Stewart & Co., Clyde Eberhart 1...	¶	587
SUMMIT COUNTY—		
East Ohio Gas Co., Wm. Ritter 1..	*	4178
KNOX COUNTY—		
H. E. Perkins, E. H. Mickley 2....	*	2865
MUSKINGUM COUNTY—		
Pure Oil Co., Zonetta Brown 3....	16	3119
MEIGS COUNTY—		
Ohio F. G. Co., Earl Winters 1....	¶	1940
STARK COUNTY—		
East Ohio G. Co., John Graber 1..	*	4545
PERRY COUNTY—		
Hopewell G. & F. Co., M. Emmert 6	¶	2984
GUERNSEY COUNTY—		
Frank Lyons & Co., G. W. Rich & Co. 1	8	1344

NORTHWESTERN OHIO

WOOD COUNTY—		
New Deal Oil Co., William Bishop 1.	*	....
Carl H. Schwyn, Hattie Browning 21	6	....
ALLEN COUNTY—		
L. J. Pease, Tr., Nancy E. Leidy 5.	25	....
WYANDOT COUNTY—		
Upper Sandusky O&G Co., Weiker 8	2	....
Overbrook Oil Co., Liddy Gier 1 ...	¶	....

*Failures; †Junked; ¶Mil. cu. ft. gas.



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Drilling Reports on Important Wildcats

CALIFORNIA

KERN COUNTY

ALPAUGH — Trico Oil & Gas Co.'s No. 1, 3-25-23, rig.

ARVIN—General Pet. Corp.'s Mattson 1, 1-32-29, bldg rig. Hall-Baker Co.'s core hole 4-4, 16-31-30, td 1270 ft. Plug 1127 ft. To test.

BELRIDGE—Continental Oil Co.'s Maylan 1, 7-28-20, rigging rotary.

BUENA VISTA LAKE—Shell Oil Co.'s B. V. A 1, 9-32-25, td 5346 ft, running formation tester.

CALIENTE—Signal Oil & Gas Co.'s S. P. Land 1, 31-29-30, sd 2290 ft. Woodward Oil Co.'s Batz 1, 36-29-29, dr sandy clay 440 ft; S. P. 2, 31-29-30, td 497 ft, pulled 6⅝-in to set 8⅝-in 385 ft.

COMANCHE POINT—Tejon Ridge Oil Co.'s No. 1, 23-32-29, coring sand and shale 1653 ft, sg.

EDISON—Cara Vel Pet. Corp.'s No. 1, 19-30-30, sd 1940 ft. H. B. Oil Co.'s Clemens 1, 6-30-30, to abn 630 ft. Mountain View Dev. Corp.'s Spangler 1, 12-30-28, td 5093 ft, swabbed, no fluid, pulled liner, co, scraped walls to run liner for test.

GOULD HILLS—The Texas Co.'s Jared How 1, 29-29-21, reaming, td 4513 ft.

GREENFIELD—Big McKittrick Oil Co.'s Houghton 1, 7-31-28, coring 4120 ft.

KERNELL—Standard Oil Co.'s Widgeon 1, 1-25-23, spud March 21, set 13⅜-in 575 ft, td 1628 ft.

LOST HILLS—Associated Oil Co.'s Williamson 1, 2-26-20, sd 7856 ft. Standard Oil Co.'s United 1, 2-26-20, td 3388 ft, heavy flow of water.

MOUNTAIN VIEW—Hogan Pet. Co.'s Symons 1, 4-31-29, plug and abn, td 5885 ft.

PREMIER—Wendell Smith's No. 1, 2-27-27, rig.

SO. BUTTONWILLOW—Seeple Oil Corp.'s No. 1, 5-30-24, sd 3730 ft.

SOUTH DOME—Continental Oil Co.'s Getchell 28-7, 7-25-20, dr hard shale 4287 ft.

TEMBLOR HILLS—Robert Foster's No 1, 2-32-22, sd 2330 ft.

WHEELER RIDGE—Badger Oil Co.'s Tejon 1, 31-11-19, td 6229 ft, redr to 4021 ft, sd. Reserve Oil & Gas Co.'s Tejon Ranch 1, 2-10-19, td 3708 ft, sg&o; Tejon Ranch 2, 12-10-19, td 1772 ft, no core recovery.

WEED PATCH—Associated Oil Co.'s Di Giorgio 1, 3-31-29, sd 5501 ft.

KINGS COUNTY

ALPAUGH—Trico Oil & Gas Co.'s Magee & Stone 3, 36-24-22, dr sand and shale 3230 ft.

PYRAMID HILLS—General Pet. Corp.'s Martin 1, 20-24-18, dr shale 715 ft.

MISCELLANEOUS

FRESNO COUNTY—Milham Explor. Co.'s Oto Lema 1, 12-12-11, to spud. Russ Oil Syn.'s No. 1, 28-12-11, sd 5015 ft.

HUMBOLDT COUNTY—The Texas Co.'s Eureka 1, 1-3-2, dr sand and shale 4997 ft.

MADERA COUNTY—Pure Oil Co.'s Chowchilla 1, 7-10-14, td 8375 ft, plug 7300 ft, testing.

SACRAMENTO COUNTY—Great American Pet. Co.'s Howard 1, 25-2-8, td 2952 ft, to set 8⅝-in 2950 ft.

SAN JOAQUIN COUNTY—Amerada Pet. Corp.'s F. D. L. 1, 15-2-5, spud March 16, dr.

SUTTER COUNTY—Buttes Oilfields' No. 2, 35-16-1, td 7016 ft, showing some gas, to drill two other wells.

SANTA BARBARA COUNTY

GOLETA—Shell Oil Co.'s Bishop 1, 20-4-28, td 6508 ft, fsg. West Elwood Oil Co.'s Simonds-Campbell 1, dr shale 3510 ft.

LOMPOC—M. J. Freeman's LaBrea 1, 11-7-33, rur. Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, dr hard sand 3028 ft.

NAPLES—Power & Snow's No. 1, 7-4-29, dr sandy shale 6018 ft.

SAN LUIS OBISPO COUNTY

CHOLAME—Willett Oil Assn's Jack 2, 10-25-..., td 3560 ft, wet on test, may abn and may start another test.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

* —*dry hole abandoned well.*	otd —*old total depth.*
‡ —*salt water (completions).*	owdd —*old well drilling deeper.*
† —*junked and abandoned.*	owpb —*old well plugging back.*
¶ —*million feet of gas.*	pb —*plugged back or plugging back.*
abd —*abandoned.*	r —*reaming.*
bbls —*barrels.*	rog —*rig on the ground.*
br —*building rig.*	rur —*rigging up rotary tools.*
b.s. —*basic sediment.*	rust —*rigging up standard tools.*
csg —*casing.*	sd —*shut down.*
co —*cleaning out.*	sdtr —*sidetracking.*
dd —*drilling deeper.*	sg —*show gas.*
dk —*derrick.*	si —*shut in.*
dr —*drilling.*	so —*show oil.*
fsg —*fishing.*	so & g —*show oil and gas.*
ft —*feet.*	spd —*spudding.*
hfw —*hole full of water.*	sr —*straight reaming.*
in —*inches.*	sw —*salt water.*
lcn —*location.*	td —*total depth.*
m —*milling.*	ur —*underreaming.*
mim —*moving in materials.*	wih —*water in the hole.*
mit —*moving in tools.*	wo —*workover.*
mot —*milling on tools.*	wocs —*waiting on cement to set.*
n, s, e, w, —*north, south, east, west.*	wosr —*waiting on standard rig.*
oih —*oil in hole.*	

VENTURA COUNTY

BARDSDALE—El Rancho Oil Co.'s Elkins 1, 9-3-19, co, td 300 ft. Union Oil Co.'s Dryden 1, 12-3-20, grade.

CONEJO — International Oil Developers' Powell 1, 33-2-20, td 3060 ft, to resume dr.

HOPPER CANYON—Oil Ridge Oil Co.'s Moran 3, 1-4-19, td 1535 ft, fsg.

Las Posas—Las Posas Pet. Co.'s Mahon 1, 22-3-20, td 8120 ft, running tubing to test.

OJAI—Continental Oil Co.'s Pirie 1, 12-4-23, dr hard sand 1990 ft.

PIRU—Bachman Pet. Co.'s No. 1, dr brown shale 4371 ft.

SANTA PAULA—Edw. M. Lesperance's Boosey 1, 31-4-20, td 600 ft, repr engine. J. W. Mosher's No. 1, 22-4-21, td 2300 ft, fsg.

SANTA SUSANA—American Dr. Co.'s No. 1-A, 31-3-17, sd 700 ft.

SESPE—Supreme Oil Co.'s No. 1, 1-4-20, dr 300 ft.

SHIELLS CANYON — The Texas Co.'s Shiells 128, 4-3-19, dr sand and shale 5995 ft.

SIMI—Dawson Oil Co.'s No. 1, 8-2-17, td 1910 ft, to deepen. Paloma Oil Co.'s Paloma Marr 1, 12-2-18, dr 625 ft.

SOUTHERN CALIFORNIA

BREA CANYON — Pressel - Perry - Tull's Baird 1, 30-2-9, dr hard gray shale 4172 ft.

EL SEGUNDO—Republic Pet. Co.'s No. 1, 18-3-14, coring hard shale 4497 ft.

FAIRVIEW—Explorers Dr. Co.'s Norris 1, 9-6-10, sd 960 ft.

HUNTINGTON BEACH, on tidelands—Black Eagle Oil Co.'s No. 1-B, permit 194, 32-5-11, td 4702 ft, rigging to test on pump.

MANHATTAN BEACH—Bethlehem Explor. Co.'s Martin 1, 30-3-14, coring sand and shale 6658 ft.

NEWPORT—Si Ruben's No. 1, 14-6-10, sd 2574 ft.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, dr shale 2780 ft, sg.

PUENTE—N. O. Shively's Rowland 1, 23-2-10, td 3145 ft, wocs 6⅝-in 2850 ft.

SAUGUS — International Oil Developers' Powell 1, 34-5-16, td 4339 ft, testing 2000 to 2250 ft.

TOPANGO CANYON—Monarch Pet. Co.'s Sylvaia 1, 5-1-16, rig.

SAN BERNARDINO COUNTY — Great American Pet. Co.'s Gapco D-1, 18-2-8, wocs 12½-in at 300 ft.

SAN DIEGO COUNTY—E. A. Hargraves' No. 1, 29-15-3, sd 2300 ft. San Diego Gas & Pet. Corp.'s No. 1, 32-18-2, td 6333 ft, flowed water, some gas, sd. J. J. Stevens' No. 1, 27-18-2, sd 1200 ft.

KANSAS

BARTON COUNTY—Lario O&G Co. et al's Nuss 1, nw sw sw 11-16s-14w, rig. Wolf Creek's Kraft 1, sw sw sw 26-16s-11w, dr 2250 ft. Suppes & Witts' Hayes 1, sw sw sw 6-16s-14w, rig. McMorrow & Spencer's Hagen 1, ne ne ne, 33-20s-11w, dr 2200 ft. Pryor & Lockhart's Herrington 1, ne ne nw 6-16s-12w, mim.

BUTLER COUNTY—Tree & Harwood's Henley 1, sw se ne 7-24s-8e, dr 2000 ft.

CLAY COUNTY—Seidel Brothers' Younken 1-A, cs½ se nw 21-9s-4e, 670 ft oih, set 4-in liner 1770 ft.

COWLEY COUNTY—A. McCoy's Brandenburg 1, sw sw se 17-34s-5e, co 1668 ft. Lloyd, Frost & Study's Weathered 1, sw se se 28-31s-3e, spd and sd. Ostat et al's Eckhardt 1, se se nw 15-35s-6e, spd and sd.

DICKINSON COUNTY—Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, sd 2714 ft.

ELK COUNTY—Lee Tiffey et al's Stonebreaker 1-A, se se se 32-28s-11e, sd 1175 ft.

ELLSWORTH COUNTY—Carter Oil Co. et al's Teubner 1, se se nw 26-17-9w, td 3179 ft, hfo, no test. Pryor & Lockhart et al's Gregory 1, se se se 19-16s-8w, dr 2625 ft. Lario O&G Co. et al's Wright 1, sw sw ne 17-16s-8w, sd 2195 ft. Lario O&G Co. et al's Central National Bank 1, se se nw 33-15s-8w, lcn. Lario O&G Co. et al's State 1, sw sw sw 29-15s-8w, dr 680 ft.

HARVEY COUNTY—H. H. & S. Oil Co.'s Frizzle 1, ne ne se 31-23s-2w, ponds. Twin Drilling Co. et al's Ruth 1, sw sw sw 16-22s-2w, spd to 50 ft.

MARION COUNTY—Youker et al's Bernhardt 1, cse nw 7-18s-4e, td 2415 ft, d and a.

McPHERSON COUNTY—Lario O&G Co.'s Base 1, sw sw sw 22-20s-2w, fsg 3510 ft. Palmer Oil Corp.'s Swenson 1, ne ne sw 11-18s-3w, dr 2145 ft. Brosius et al's Hanson 1, ne ne sw 15-17s-2w, sd 1108 ft. Shell Pet. Corp.'s Wenger 1, ne ne ne 2-20s-1w, coring 3335 ft. W. C. McBride's Mugler 1, se sw sw 22-20s-3w, dr 1669 ft.

NESS COUNTY—Texas Co. & Gypsy Oil Co.'s Goodman 1, csw sw 21-19s-23w, td 5047 ft, d and a. Phillips Pet. Co.'s Young 1, cnw sw 13-18s-21w, td 3035 ft, lost circulation. Atlantic Oil Co.'s Mark "A" 1, cse se 28-20s-23w, rig.

OSAGE COUNTY—Jim Edwards' Deitrick 1, cnw se 21-14s-15e, sd 630 ft.

PAWNEE COUNTY—Atlantic Oil Co.'s Slepake 1, cne ne 15-23s-17w, ru.

RENO COUNTY—Privett Drilling Co.'s Crotts 1, ne nw ne 27-26s-10w (owdd), sso 3982-93 ft, so 4037-44 ft, dr 4218 ft. Johnson & Carey et al's Dyck 1, se ne se 35-22s-5w, td 4070 ft, d and a.

RICE COUNTY—Allison & Fitzwilliams et al's Stumps 1, nw nw sw 4-18s-10w, so 3015-20 ft, hfw 3020-25 ft, dr 3158 ft. Foraker-Nickerson et al's Lyon 1, se se ne 27-20s-8w, set 8-in csg 2683 ft, hfw 3030-35 ft, set 6⅝-in csg 3100 ft, so and g 3100-3105 ft, dr 3150 ft. Vickers-Pet. Co. et al's Gouldner 1, se ne nw 16-18s-9w, sd 1650 ft. Day's Mason 1, nw ne ne 28-21s-7w, ru. Gypsy Oil Co.'s Kessling 1, nw nw sw 10-20s-19w, ru.

RUSH COUNTY—Lario O&G Co. and Phillips Pet. Co.'s Benbow 1, nw ne ne 12-17s-19w, dr 3780 ft. Morgan & Flynn et al's Schlegel 1, se se nw 26-17s-16w, hfw 520-90 ft, dr 660 ft. Boyle & Grossman et al's Yost 1, csw sw 23-17s-18w, br.

RUSSELL COUNTY—Hartman & Blair's Krause 1, ne nw nw 5-15s-15w, td 3468 ft, d and a. Wolf Creek et al's Penn Mutual 1, sw sw sw 22-15s-15w, spd. Hartman & Blair's Furthmeyer 1, ne ne ne 19-12s-13w, td 3335 ft, d and a. Murphin's Funk 1, sw sw sw 19-12s-13w, dr 2583 ft. Reserve et al's Moore 1, cnw nw sw 15-13s-12w, mim. Hartman &

Blair's Hildebrandt 1, nw ne sw 12-14s-14w, dr 1475 ft. Vernon & Murphin's Becker 1, ne ne ne 33-15s-14w, rig. Ryan Pet. Co.'s Newbold 1, nw se ne 25-12s-15w, dr 275 ft.

SALINE COUNTY—Dieter et al's Herrington 1, ne nw se 3-13s-1w, so 3105 ft, hfw 3105-25 ft, ur 6-in csg.

STRATFORD COUNTY—Lario O&G Co. et al's Tudor Morgan 1, se se nw 23-24s-13w, so 3588-93 ft, set 8-in csg 3571 ft, td 3597 ft, wocs.

SUMNER COUNTY—Tom Palmer's Wentworth 1, nw nw ne 9-35s-2e, fsg 3475 ft. D. J. Wilson et al's Clark 1, csl nw 15-35s-1w, rig. Wakefield et al's Newton 1, se se se 21-30s-2e, rig. Shell Pet. Corp.'s Green 1, se sw nw 3-33s-2e, dr 1555 ft.

TREGO COUNTY—Jenman Oil Co.'s Jones 1, se se se 20-12s-23w, cored 3828-80 ft, set 7-in csg 3861 ft, wocs. Hansa & Lauck's Lang 1, se se nw 1-14s-21w, cellar.

WOODSON COUNTY—Kite et al's Gorman 1, ne ne nw 18-25s-14e, dr 630 ft.

OKLAHOMA

ATOKA COUNTY—H. F. Potts' Nichols 1, sw sw nw 32-2s-9e, dr 2015 ft. Clark et al's Morrison 1, se se se 32-1n-14e, sd 80 ft.

BECKHAM COUNTY—Fred Coogan et al's Shelton 1, sw sw sw 33-10s-25w, dr 3232 ft.

BRYAN COUNTY—C. B. Welch's Collins 1, sw sw nw 19-8s-8e, dr 492 ft. Trio Oil Co.'s Gilbert 1, se se se 25-8s-7e, dr 240 ft.

CADDO COUNTY—Denver P. & R. Co.'s Sah-Cam 1, cse se 33-10n-10w, ru. H. W. Lee et al's Horton 1, ne ne ne 9-6n-13w, br.

CARTER COUNTY—Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, dr 4908 ft. Waco Turner's A. F. Munson 1, ne nw se 35-5s-2w, set 12½-in csg 185 ft, wocs.

CHOCTAW COUNTY—Rhodes et al's Pussumik Savings Bank 1, se se se 1-5s-17e, lcn.

CLEVELAND COUNTY—Sinclair Prairie Oil Co.'s Franklin Community 1, se nw se 21-10n-2w, dr 5315 ft.

COMANCHE COUNTY — F. F. Stevens' Green 1, se se sw 2-1n-13w, dr 1455 ft. Henry Rosenthal et al's Au-chi-re-ah 1 "B," nw nw nw 5-1n-9w, td 1493 ft, est 3 bbls oil, hfw, to dd.

GARFIELD COUNTY—Herndon Drilling Co. et al's Allen 1, cne ne sw 35-24n-3w, dr 4870 ft.

GARVIN COUNTY — National Production Co.'s Littrell 1, ne ne ne 31-2n-3w, td 1528 ft, may dd. George Pace's Smith 1, sw sw ne 35-1n-1e, sd 1265 ft. Anderson-Kerr et al's Rodke 1, nw nw se 17-4n-1w, lcn.

GRANT COUNTY — Helmerich-Payne's Crouse 1, cne sw 29-25n-8w, td 6040 ft, rur.

GREER COUNTY—Fred Morgan et al's H. G. Carder 1, csw se 19-4n-22w, sd 1012 ft. M. C. Ent & R. C. Camp's Siminton 1, sw sw se 29-5n-21w, lcn. J. M. Wren & R. W. Slemaker's 1, cse ne 35-5n-23w, lcn.

HARMON COUNTY—Jud Leath et al's McConnell 1, nw nw nw 22-3n-24w, waiting on dr water. Wilson & Walker's Wilhelm 1, se se se 30-4n-24w, spd to 30 ft and sd. D. E. Whatley et al's Hamilton 1, nw nw se 25-4n-24w, cellar.

HUGHES COUNTY—Freeman et al's Kite 1-A, nw nw ne 8-6n-10e, sd 598 ft. Dandridge & Crane's Mead 1, nw nw ne 17-5n-9e, sd 1300 ft. Amerada Pet. Corp.'s Adams 1-A, ne ne sw 31-9n-9e, hfw and sd 4317 ft.

JACKSON COUNTY—Palo Duro Oil Co.'s Ealum 1, se se sw 15-2n-21w, sd 840 ft. Scheig's James 1, ne ne ne 23-1n-20w, sd 1904 ft. Associated Oil Co.'s Harrell 1, ne ne sw 13-1s-21w, sd 1125 ft. Selby Oil Co.'s R. C. Holt 1, se se sw 15-2n-20w, td 1998 ft, d and a. Whatley & Whatley's Holt 1, nw sw se 20-1n-20w, dr 1247 ft. Scheig et al's C. W. Cole 1, ne se se 5-1n-20w, td 1609 ft, d and a. A. H. Emenhiser's Murrell 1, se sw se 17-3n-21w, sd 910 ft. Jack Kilgore et al's Wooldridge 1, se se ne 15-3n-21w, dr 1300 ft. Golden & Cochran's L. H. Duncan 1, sw sw ne 34-2n-21w, fsg 1620 ft. Scheig et al's Sue Richardson 1, sw nw se 31-1n-19w, lcn. J. G. Buell et al's M. E. Kizzar 1, se se ne 2-2n-22w, dr 890 ft. Triangle Oil Co.'s Fox 1, cel se nw 11-3n-20w, dr 400 ft. Burke-Greis Oil Co.'s Milbrant 1, sw nw sw 31-3n-19w, lcn. Gypsy Oil Co.'s Boucher 1, nw sw sw 32-1n-19w, dr 115 ft. O. P. Burnham et al's 1, se se ne 27-1s-20w, lcn.

JEFFERSON COUNTY—Gypsy Oil Co.'s James 1, sw se se 30-6s-6e, dr 160 ft.

KAY COUNTY—Harris-Haun's Schuessler 1, cnw sw 3-28n-2e, set 8in csg 3197 ft, dr 3220 ft. J. T. Lindsay's Waggoner 1, nw nw ne 3-27n-1e, lcn.

KIOWA COUNTY—Henson & Patton's Beeler 1, ne ne ne 11-6n-15w, so 120-130 ft, dr 445 ft.

LINCOLN COUNTY—Carter Oil Co. et al's McFarland C-38 1, sw sw ne 18-13n-4e, dr 2600 ft. Stanolind Oil & Gas Co. et al's Campbell 1, sw sw nw 3-14n-3e, rotary rig.

LOGAN COUNTY—Sinclair Prairie Oil Co.'s School Land 1, se se se 36-17n-1w, recementing. Slick-Urschel's Pennington 1, csw ne 10-16n-1w, ssg 5485-5516 ft, coring 5517 ft. J. C. Shaffer et al's Watson 1, cnw ne 15-15n-4w, dr 4290 ft. Sinclair Prairie Oil Co. & Slick-Urschel's Koatsch 1, sw sw sw 23-15n-3w, sso and g 6168-6182 ft, will ream down and core ahead. Mid-Continent's Community Nunn 1, se se nw 25-15n-1e, lcn. Anderson-Kerr et al's Renfro 1, ne ne ne 33-16n-4w, dr 1740 ft. J. C. Shaffer's Hammond 1, se se sw 10-15n-4w, dr 5072 ft.

LOVE COUNTY—Amerada Pet. Corp. & Stanolind Oil & Gas Co.'s Westheimer & Daube 1, nw se se 27-6n-2e, pb to straighten.

MARSHALL COUNTY—Paul R. Robb's Vittetoe 1, cne se 11-5s-4e, dr 5295 ft.

McCLAIN COUNTY—Anderson & Kerr's Newburn 1, nw sw ne 24-5n-3e, spd.

MURRAY COUNTY—Equitable Oil & Gas Co.'s Scott 1, csl n½ nw sw 15-1s-3e, td 1500 ft, d and a. Manahan Oil Co.'s Ward 1, ne se nw 18-1s-3e, ur 8-in csg 1410 ft, td 1417 ft. Equitable Oil & Gas Co.'s Baer 1, sw nw nw 21-1s-3e, hfw 342-460 ft, dr 485 ft. Equitable Oil & Gas Co.'s Ferguson 1, ne ne sw 36-1s-3e, rig.

OKFUSKEE COUNTY—Amerada Pet. Corp. et al's Jaynes 1, nw nw sw 20-10n-10e, sw 3963 ft, so 3970 ft.

OKLAHOMA COUNTY—Anderson-Kerr et al's Linn 1, sw sw nw 17-14n-2w, dr 5403 ft.

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PAWNEE COUNTY—Trees Oil Co.'s Susan Wedd 1, cse se 27-24n-5e, lcn.

PITTSBURGH COUNTY—P. H. Gray et al's Lee 1, nw nw se 12-5n-13e, fsg 1210 ft.

PONTOTOC COUNTY — Paramount Oil Co.'s Graham 1, sw se sw 13-1n-7e, sd 3406 ft, dr 3415 ft, hole caving. Mudge Oil Co.'s Clampett 1, sw nw nw 10-2n-6e, sd 915 ft. Crabb-Craw Oil Co.'s Breco 1-A, se ne sw 3-4n-6e, sd. Southern Oil Co.'s Walker 1, nw nw sw 11-4n-6e, td 990 ft, ur. Crabtree's Chandler 1, ne se sw 4-5n-6e, dr 775 ft. Gillette & Kroeger's Duver 1, nw nw se 36-1n-6e, dr 1247 ft. Fleetborn Oil Corp.'s Oliver 1, ne nw se 21-4n-5e, set 12½-in csg 105 ft, wocs. Phillip Boyle's McCracken 1, ne nw nw 31-5n-4e, cellar and pits.

POTTAWATOMIE COUNTY— C. W. James et al's Neal 1, nw se sw 4-5n-3e, pb 3340 ft. Howard Sherman et al's O. N. Wingo 1, ne nw se 32-10n-5e, so 3210-3220 ft, dr 3370 ft.

PUSHMATAHA COUNTY—William Ungerman's Messer 1, se sw sw 35-3s-18e, set 8¼-in csg 2590 ft, show of water 2895 ft, to run 6⅝-in csg.

SEMINOLE COUNTY—Ray Dorris & J. T. Hall's Dorris 1, se se sw 31-10n-7e, sd 608 ft. Sovereign Drilling Co. et al's Thomas 1, nw nw se 8-6n-7e, co 3900 ft, flow 100 bbls oil 25 minutes. Carter Oil Co.'s Black 1, cne se 14-10n-6e, td 2755 ft, flow 1150 bbls oil.

STEPHENS COUNTY—Wm. Angle et al's Cooper 1, ne nw nw 23-2n-7w, dr 350 ft.

TILLMAN COUNTY—Laper et al's Conrad 1, ne ne ne 35-1s-19w, dr 840 ft.

MICHIGAN

MIDLAND COUNTY—Atha Oil Co.'s LaLonde 1, 13n-1e-27, sd 3483 ft, 150 ft oil, will acidize. Goll-Graves-Mechling's Oviatt 1, 16n-2e-24, sd 950 ft. Foster & Wicklund's Neal 1, 16n-2w,13, Dundee 3827, so&w 3999-06, testing. Howard Patterson's Haskins 1, 13n-2e-26, csg 3-in at 3740 ft, so&w.

ISABELLA COUNTY — United Driller's Vandercook 1, 15n-3w-24, rig. Pure Oil Co.'s Baker 1, 13n-5w-15, pb from 4253 to 3129 ft, treated, swabbed 60 bbls on three-day test, will abd. W. J. Bernier's Webber 1, 15n-5w-22, rig.

MONTCALM COUNTY—L. E. Duvall's Eiknorch 1, 11n-10w-13, sd 1343 ft. Golden Oil Co.'s Steffenson 1, 10n-8w-5, dr 2900 ft. L. G. Thompson's Knapp 1, 12n-9w-17, dr 350 ft. McClanahan Oil Co.'s Flint 1, 10n-5w, ne nw nw 11, br.

MECOSTA COUNTY—Jetter Oil Co.'s Parsley 1, 14n-10w-19, fsg 575 ft. Jasmid Oil Co.'s Coopersville Bank 1, 13n-10w-22, sd 850 ft.

GLADWIN COUNTY—M. F. Whitehill's Spicer 1, 17n-2w-11, dr 700 ft. Sun Oil Co.'s Hines 1, 17n-1w-31, dr 2100 ft. Beaverton Oil & Gas Co.'s Ross 1, 17n-1w-7, dr 1100 ft.

MISCELLANEOUS—Arenac County: McClanahan Oil Co.'s Heath 1, 19n-3e-31, dr 2600 ft. Clinton County: Elba Duplain Co.'s Stratton 1, 8n-1w-4, dr 2000 ft. Wexford County: M. J. Ingold's Webb 1, 22n-9w-13, dr 550 ft. Clare County: Sun Oil Co.'s Becker 1, 18n-3w-2, dr 970 ft. Livingston County: Talbot Oil Co.'s McPherson 1, 3n-4e-35, sd 3943 ft, shot, gauged 425,000 ft gas.

WYOMING

BIG HORN COUNTY—California Explo. Co.'s Gafner 1, csw sw 4-54n-94w, dr 900 ft. Yale Oil Corp.'s Blakesley 1, ne ne nw 28-49n-91w, running 8-in csg to 1295 ft to shut off water. Wyoming O&R Co.'s Government 1, nw sw nw 14-48n-91w, dr 1305 ft. Wyoming O&R Co.'s Evans 1, ne ne nw 12-49n-91w, Paintrock structure, spd.

CARBON COUNTY—Earl W. Reader, Inc.'s Whitford 1, sw se se 24-20n-84w, reaming pipe with rotary to straighten collapsed joint at 2380 ft preparatory to re-cementing, hole bottoms at 3595 ft with 10-in csg cemented at that depth. Ohio Oil Co.'s Morris 1, cnw se 6-20n-77w, plg back from 7360 ft where it had water in the Tensleep sand, and will test upper horizon. Ohio Oil Co. and California Co.'s Wm. Kyle 1, ne se ne 26-21n-79w, dr 5206 ft in the top of the Sundance, objective.

CONVERSE COUNTY—Chadron-Osage Oil Co.'s Jebel 1, se ne ne 17-32n-69w, dr 250 ft. John Ackard's Daniels 1, sw sw se 17-32n-71w, dr 2589 ft. F. P. Dilger's Government 1, se ne sw 33-31n-72w, dr 1076 ft.

FREMONT COUNTY—Mid American Oil Co.'s Government 2, cne sw 14-28n-92w, testing 2219 ft in the lower Embar with 1500 ft of oil in the hole. May deepen to Tensleep. Monongahela Oil Co.'s Wisda 1, ne se se 13-28n-93w, resuming at 2970 ft.

MONTANA

BIG HORN COUNTY—Norbeck Drilling Co. & Enterprise Oil Co.'s Lynde 2, sw nw se 21-6s-35e, resuming at 3621 ft.

LIBERTY COUNTY—J. H. Hamilton Co.'s Northern Farms 1, cne sw 10-37n-5e, ur 8-in csg to bottom at 2450 ft.

COLORADO

PARK COUNTY—South Park O&G Co.'s Lotus 1, nw ne ne 16-11s-17w, Hartsel anticline, dr 1300 ft.

PROWERS COUNTY—Trojan O&G Co.'s Lotus 1, nw ne ne 15-23s-46w, Lamar district, dr sandy lime 5074 ft.

NEW MEXICO

CHAVES COUNTY—Warman Oil Trust's Weldon-Hoar 1, nw se 9-14s-25e, Blackdom structure, dr grey lime 1994 ft.

OTERO COUNTY—Flynn, Welch & Yates' Donohue 1, cnw ne 28-24s-15e, Sacramento Creek structure, mim.

ROOSEVELT COUNTY — Claudell Dev. Co.'s Wilmes 1, sw se 21-s-30e, sd 3628 ft.

EDDY COUNTY—Coronado Oil Co.'s Anderson 1, cne nw 13-20s-23e, fsg for 8¼-in csg 1135 ft in the lime. Getty Oil Co.'s Dooley 7, sw nw 24-20s-29e, Twin Hills structure, dr 2220 ft. Dooley et al's Commerce Trust 1, nw ne sw 8-20s-27e, lcn.

EDDY COUNTY—Geo. F. Getty Oil Co.'s Andrew Dooley 7, swc nw 24-20s-29e, 6000-ft test, elev 3309 ft, dr 2225 ft.

LEA COUNTY—Amerada Pet. Corp.'s State 1-F, c sw sw 36-19s-36e, Monument area, rig. Anderson-Prichard Oil Corp.'s Brett-Conoco 1, c se nw 7-20s-35e, Monument area, lcn; Fisher 1, c se ne 8-20s-35e, elev 3690 ft, fsh bit 810 ft; Etz-Conoco 1, c nw sw 12-21s-32e, lcn; Jiminez 1, c sw se 11-20s-33e, lcn. Amon G. Carter et al's G. H. Mattix-Conoco 1, c se nw 3-24s-37e, machine. R. H. Henderson et al's P. J. Langley 1, c se se 8-25s-37e, elev 3162 ft, top salt 1205 ft, dr 2825 ft; Russell-Steele 1, c ne nw 24-20s-33e, elev 3627 ft, cem 7-in csg 3481 ft. Humble's J. L. Coates 1, c nw ne 10-24s-36e, elev 3383 ft, salt 1314-2947 ft, top brown lime 2996 or 2988 ft, jkd gasser, td 3355 ft; Coates 1-A, relief well, elev 3385 ft, top anhydrite 1324 ft, top salt 1433 ft, td 3394 ft, pumping 100 bbls water per hour under 600 lbs pressure into gas pay; Faye M. Saunders 1, c ne ne 4-22s-34e, elev 3641 ft, top anhydrite 1730 ft, top salt 1755 ft, dr 3910 ft. Maljamar O&G Corp.'s P. Miller 1, c nw sw 23-17s-32e, elev 3992 ft, top salt 955 ft, dr 2235 ft. Nat'l Securities Oil Corp.'s V. Linam 1, nec s½ sw 33-18s-37e, elev 3712 ft, top anhydrite 1580 ft, logged salt 1716-2650 ft, top lime 2956 ft, dr lime 4440 ft. Repollo Oil Co.-Anderson-Prichard Oil Corp.'s B. W. Arnold 1, swc nw se 6-20s-32e, elev 3567 ft, top anhydrite 1540 ft, salt 1637-2695 ft, dr 3030 ft. Rowan Drilling Co. &

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Neville G. Penrose's E. M. Elliott-Conoco 1, c ne sw 17-22s-37e, rig. Shell Pet. Corp.'s State-Endura 1, c se ne 12-21s-35e, elev 3588 ft, top lime 3020 ft, pb from hfw 4404 to 3987 ft, treated with 3000 gals acid with no results, pb to 3926 ft and shot with 200 qts nitro 3860-3910 ft. The Texas Co.-Amerada & Columbian Carbon Co.'s Parker 1, c nw nw 29-26s-37e, elev 2952 ft, tested gas 3010 ft, cem 7-in csg 3012 ft. W. L. Todd and The Texas Co.'s Fred Cole 1, c ne ne 35-19s-33e, elev 3603 ft, top salt 1540 ft, dr 2930 ft. Sam K. Vierson et al's W. D. Robinson 1, c nw se 14-11s-32e, elev 4355 ft, rig.

EAST TEXAS

ANDERSON COUNTY—Gulf Prod. Co.'s W. C. Calloway 1, P. Martin sur, Camp Hill area, lcn; M. Maddox 1 (120-ac), D. Stilts sur, elev 657 ft, top Pecan 3970 ft, dr 4020 ft; W. B. Robinson 1, D. Stilts sur, elev 630 ft, sd 629 ft; L. B. Ross 1 (35.7-ac), J. C. Rosson sur, elev 654 ft, Pecan chalk 3976-4256 ft, top Austin chalk 4936 ft, dr chalk 5100 ft; Mary J. Ross 1 (54.7-ac), Robt. Erwin sur, elev 487 ft, Pecan chalk 3766-3970 ft, Austin chalk 4509-4696 ft, top Woodbine 4749 ft, top sand 4796 ft, tested sw at 4750-4800 ft, top red beds 4828 ft, top 2nd sand 4937 ft, dr 5275 ft. Gulf and Humble's O. G. Rogers 1 (267½-ac), Daniel Parker sur, 5 mi sw of Elkhart, elev 301 ft, Pecan chalk 4095-4280 ft, dr 4950 ft. Hunt Prod. Co.-Sun Oil Co.'s Mrs. Alice Scott-Pure 1 (300-ac), Jas. Crawford sur, Slocum area, lcn. Tide Water & Texas Seaboard's N. N. Wills 21-A, Cayuga field Trinity test, elev 308 ft, dr 6650 ft; John Smith 1 (49.1-ac), John Adams sur, Long Lake field gas unit, elev 295 ft, dr 1800 ft; C. T. Valentine 1 (301-ac), John Little sur, 9 mi n of Palestine, lcn. Joe A. Worsham et al's W. F. Wathen 1 (80-ac), B. Towles sur, nw of Cayuga field, elev 319 ft, Pecan chalk 2255-2398 ft, Austin chalk 3220-3585 ft, completed at 4091 ft, or 3767 ft sub-sea, flowed 569 bbls oil 24 hrs 20/64-in choke.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (40-ac), Jessie Milam sur, elev 272 ft, sd 250 ft. A. L. Wills et al's Irene Parsons 1, W. B. Hawkins sur, Old Boston area, lcn.

CHEROKEE COUNTY—Jacksonville O&G Corp.'s H. D. Henderson 1 (40-ac), J. Pineda sur, elev 409 ft, sd 693 ft. Killough et al's J. S. Strickland 1 (40-ac), Urian Moore sur, 7 mi nw of Jacksonville, elev 433 ft, sd 3505 ft. Ponta Oil Co. et al's C. W. Darley 1 (35-ac), (east) Cyrus Parks sur, 2¼ mi s of Summerfield, elev 434 ft, fsh 1480 ft. E. M. Thomason & Co.'s W. J. Addis 1 (80-ac), Jessie T. Jones sur, elev 471 ft, top broken Pecan chalk 3951 ft, hard chalk 4020-4277 ft, top Austin chalk 4897 ft, jkd and abd 5136 ft. T. J. Wood & Young's New Birmingham 3 (160-ac), Levi Jordan sur, Rusk pool, rig.

FREESTONE COUNTY—J. A. Hoover and R. J. Bain's W. W. McFall 1 (65-ac), S. Garrison sur, lcn. J. B. Daniel Oil & Royalty Co.'s P. D. C. Ball-Shell 2 (300-ac), J. Y. Aguilera sur, Red Lake area, Pecan chalk 3057-3280 ft, dr 3650 ft.

GREGG COUNTY—O. T. Clark et al's T. G. Williams 1 (100-ac), David Hill sur, 3 mi ne Longview, elev 426 ft, Pecan chalk 2391-2985 ft, top Austin chalk 3447 ft, sd 3620 ft.

HENDERSON COUNTY—Great State Oil Corp.'s R. Sid Ansley 1-A, N. B. Thompson sur, elev 268 ft, sd 1635 ft. Taubert & McKee's (was Crosby & Culp) M. T. Dodd 1, (160-ac), Geo. Aldrich sur, 4 mi e of Malakoff, elev 376 ft, Pecan chalk 2390-2504 ft, Austin chalk 3456-3610 ft, sd 4049 ft. H. M. Wilson et al's H. M. Wilson 1 (943-ac), Thomas Caro sur, 5 mi n of Malakoff, dk.

HILL COUNTY—Humble's Mc Holderman 1 (80.7-ac), C. Sullivant sur, 1 mi w of Mount Calm, elev 659 ft, Austin chalk 685-1015 ft, top Washita section 1170 ft, top Edwards 2678 ft, dry and abd 3398 ft.

HOPKINS COUNTY—D. A. Hale et al's L. N. Hall 1 (70-ac), A. Caro sur A-143, elev 506 ft, Pecan chalk 1825-2040 ft, top Austin chalk 2728 ft, sd 2800 ft.

HUNT COUNTY—D. T. Cauble et al's Y. B. Reed 1 (220-ac), F. Thweatt & C. B. Payne sur, 3 mi se Greenville, top Woodbine sand 2809 ft, top Red Beds 2874 ft, sd 3256 ft. H. G. Samson and Shawver et al's J. R. Phillips 1 (53 1/3-ac), W. L. James sur, elev 522 ft, top Gober chalk 550 ft, top Austin chalk 1113 ft, sd 1615 ft.

KAUFMAN COUNTY—G. H. Germany et al's D. Clark-W. S. Kirby 1, S. Edens sur, sd 1780 ft. L. P. Kean et al's J. B. Hunter 1, R. Sowell sur, 4 mi s of Terrell, elev 453 ft, top Austin chalk 1785 ft, dr 3215 ft. Murray and Emerson's G. W. Martin 1 (100-ac), W. F. C. Butler sur, 2 mi ne of Kemp, sp and sd.

LIMESTONE COUNTY—C. F. Carter et al's S. E. Dean 1 (75-ac), Pedro Varella sur, 3½ mi sw of Mexia, sd 1717 ft. Crawford Pet. Co. et al's Vol DeLong 1 (59.3-ac), Pedro Varella sur, 2½ mi n of Thelma, elev 522 ft, top Woodbine section 2750 ft, sand 2772-91 ft, shale to 2807 ft, tested gas. Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Varella sur, top Austin chalk 2350 ft, sd 2700 ft. J. Edward Mills et al's J. B. Hunt 1 (34¼-ac), Israel Woods sur, 3 mi ne of Kosse, Pecan chalk 2010-2137 ft, Austin chalk 2780-3158 ft, top Woodbine sand 3578 ft, cas collapsed 3637 ft.

MORRIS COUNTY—Marydun O&D Co.-Sterling O&R Co.'s T. C. Conner 1 (1000-ac), M. W. Mathews sur, elev 294 ft, top Pecan chalk 2345 ft, fsh 3678 ft. Steve J. Rontondi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, rig. Watson et al's P. M. Staggers 1, J. D. Nelson sur, sd 4259 ft. B. L. Watson et al's (was HNH Drl. Co.) E. Hall 1 (177-ac), Levi Jordan sur, top Pecan chalk 2360 ft, co 4002 ft.

NAVARRO COUNTY—W. J. Keeling Estate and Peyton Bros.' J. F. Rushing 1 (84-ac), Henry Ford sur, 6 mi w of Currie, elev 530 ft, Austin chalk 2155-2395 ft, top Woodbine 2858 ft, sd 2880 ft. Wm. C. McGlothlin et al's M. A. Dobbin 1 (138-ac), E. Lowry sur, 2 mi n Corsicana, elev 443 ft, Austin chalk 1244-1701 ft, dr 2135 ft. Wiggins et al's D. A. Donoho 1 (63½-ac), John Cauple sur, 2 mi sw Corsicana, elev 467 ft, sd 1439 ft.

RED RIVER COUNTY—C. M. "Dad" Joiner et al's D. Rust 1, C. C. Wilborn sur, s edge Avery, dk. J. E. Dinger Oil Co.'s W. T. Norris 1 (351-ac), Joseph Guest sur, 1 mi s of Detroit, elev 464 ft, tested dry 1250 ft.

ROBERTSON COUNTY—H. L. Patton Co.'s W. H. & H. A. Ely 1 (616-ac), Antonio Manchaco sur, 5 mi se Hearne, elev 392 ft, Queen City 153-304 ft, Recklaw 304-661, top Carrizo 661 ft, coring 703 ft.

RUSK COUNTY—Clark et al's J. T. Irwin-Hapgood 1, Geo. May sur, 5 mi ne of New Salem, lcn. Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi e of Pirtle, elev 370 ft, Pecan chalk 2418-2793 ft, Austin chalk 3352-3512 ft, dr lime 4305 ft.

SMITH COUNTY—W. L. Cloud and A. G. Deck's Dora Kendall 1, John Williams sur, 3 mi e of Van field, sd 1650 ft. Dr. Garland et al's J. W. Bartlett 1, R. G. Stewart sur A-955, 1 mi se Jamestown, elev 498 ft, dr 2770 ft. W. R. Harrison et al's W. P. Rushing 1, Jacob Herrin sur, 1½ mi se Whitehouse, elev 393 ft, pb from 4673 to 4330 ft, re-cem hole. R. L. "Bob" Peveto & V. E. Howze's F. J. Watson 1 (77-ac), Oliver Anderson sur, elev 574 ft, Pecan chalk 3550-3865 ft, Austin chalk 4700-4953 ft, top Woodbine 5260 ft, tested sw, dry and abd 5368 ft. Sun Oil Co.'s Longley & Reeves 1 (151.45-ac), J. Lindley sur, 4 mi ne Chapel Hill, elev 399 ft, dr 2000 ft.

TITUS COUNTY—Steve Rotondi et al's O. C. Lillianstern 1 (40-ac), W. H. Crawford sur, 5 mi se of Talco, elev 301 ft, dk.

VAN ZANDT COUNTY—J. C. Acree et al's F. W. Anderson 1 (160-ac), John Blair sur, 4 mi n of Wills Point, sd 2068 ft. Blackwell O&G Co.'s Mrs. C. H. Browning 1 (100-ac), J. P. Tackett sur, 2½ mi se Van, lcn. O'Bryne et al's J. D. Daniels 1 (115-ac), W. R. Flowers sur, 2¼ mi se Martin Mills, lcn. Monterey Oil Co.'s S. E. Cox 1 (67-ac), J. Wilson sur, lcn. Newt Tidwell and W. J. Rogers' L. E. Breucher 1 (98¾-ac), David Clapp sur, 5 mi se Wills Point, mim.

WOOD COUNTY—R. M. Coleman & Ed. S. Hill's J. J. Junior 1 (59-ac), Jas. M. Moore sur, 7 mi sw of Winnsboro, elev 479 ft, top Pecan chalk 2612 ft, dr 3030 ft.

HARRISON COUNTY—Roy C. Swails et al's Bonnie Pitts 1, sec G. W. Martin sur, spd sd for surf csg 43 ft.

MARION COUNTY—Ed S. Holman's Lizzie Henderson A-1, R. Bennington sur, recemtd

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6⅝ in csg 1919 ft, top Pecan Gap, pb from 3407 to 2445 ft, plan to acidize.

PANOLA COUNTY—J. L. Cadrin's Robt. Johnson 1, J. Johnson sur, dk. Harry Flinchbaugh & J. E. McAneny's M. G. McCormick 1, Jas. P. McAdams sur, rur. G. F. Hudson's J. F. Neil 1, C. McCrary sur, claim so, fsg ds, td 2345 ft. Geo. Le Grand's P. J. Laidleigh 1, A. Thompson sur, sd 55 ft. S. B. Wallace 1, A. M. McLaughlin sur, rur.

SHELBY COUNTY—I. M. Bradley et al's J. J. Ashberry 2, J. M. Mitchell sur, top PG 2045 ft, 6⅝ csg cemtd 2960 ft, bailed dry 3070 ft. O. P. Bush, Tr.'s Pickering Lbr. Co. 1, W. H. Harvey sur, sd 1535 ft.

SOUTH TEXAS

ATASCOSA COUNTY—Southwestern Dev. Synd., Ltd.'s T. O. Tom 1, Ed O'Boyle sur No. 7, dr 1000 ft, show little gas on ditch.

BANDERA COUNTY — Abercrombie & Harrison's R. L. Duke 1, J. A. Bennett sur No. 7, taken over from W. B. Kyle et al, to dr to 6000 ft. Plateau Oil Co.'s R. G. Garrison 1, sec 506, GC&SF sur, dr 2600 ft.

BASTROP COUNTY — Hiriam Edwards' Murchison 1, A. Litton sur, sd 2034 ft. Malone & Owen's S. S. Spooner 1, L. Leverenz sur, dr 600 ft. Marts & Beavens' W. L. Miller 1, blk 22, Dennis Dykes sur, dr 2568 ft. Nelson Puett's Carroll 3, A. Mayes sur, sp.

BEE COUNTY—Mills Bennett & W. F. Morgan et al's Bassinger 1, 330 ft nl and wl ne nw sec 7, Ragley sub, J. M. Uranga gr, 3000 ft north Dirks pool discovery well, dk. Caeser Oil Co.'s R. E. Miller 3, F. Lewis sur, td 3044 ft, cored sand 3039-41 ft in sdtr hole, trying to set short string casing. Dirks Brothers' I. J. Miller 1, Cayetno Rivas sur, lcn. Eastland Oil Co.'s Fred Schroeder 1, Sarah Louis sur, top Pettus 2587 ft, cored 4 ft hard cap, show sw, now dd to Yegua. Felmont Corp.'s J. T. Earnest 1, Bee County School Land sur No. 17, set sur csg, wocs. Haines-McMillin Oil Corp.'s Stoltzfus 1, sec 14, Chittim Miller Ranch, J. M. Uranga gr, ru, last rept. A. Hartzendorf's Fee 1, G. A. Kerr sur, 1 mi nw of Pettus field, dst 3633-48 ft in Pettus, show 70 ft oil, dr water and mud, no sw, coring ahead. Humble O&R Co.'s Thompson 2, Garret Roche sur, dr 5334 ft in sdy sh, first of 3 dst showed 90 ft mud cut with gas 10 min. Inter-Allied Pet. Co.'s L. L. Nix 1, sec 20, J. M. Uranga gr, elev 360 ft, dk. Paul Meaders et al's Keller 1, Alcorte sur, sec 28, dk. Worth Oil Co.'s Rutledge 1-A, B. Q. Hadley sur, dr 3300 ft.

BEXAR COUNTY—N. G. Carter's J. F. & F. X. Bilhartz 1, F. Rolen sur No. 48, dr 625 ft. Dorine Oil Co.'s S. Tudyk 1, F. Cardenas, dr 1224 ft. M. A. Frederich's Fee 1, F. Recardo sur, dr 1300 ft. Jones & Keiffer's LaGrange 1, F. Rolen, td 1005 ft, prep to set csg. C. J. LeComte's Mayfield Park 1, Mayfield Park addition, sd 362 ft. McPhee & Briggs' Florence Lamb 1, Manuel de Luna sur No. 4, dr 1329 ft, Taylor marl. Noble & Aiken's R. W. DeVilbiss 1, Martinez sur, td 2230 ft, bailing little o&g. George O'Neil et al's Holly Crouch 1, M. Gotari sur, No. 5, dr out plugs 1396 ft. Carroll C. Raborn's Claud McCauley 1, Harris sur No. 52, set 40 ft 8 in csg, prep to re-dr.

CALDWELL COUNTY—H. H. Coffield's C. C. Franks 1, E. Brown sur, sp. Exploration Dev. Co. (F. Meyers) W. T. Mooney 1, S. Seal sur, sd 290 ft for ds. R. Y. Walker's J. M. Pierce 1-B, S. Seal sur, td 2556 ft, top Edwards lime 2532 ft, pb and re-dr to 2348 ft, 7 in csg set 2094 ft, saturation in Austin chalk 2105-2205 ft, prep to put on pump, corrected information.

CALHOUN COUNTY—Continental Oil Co.'s American National Realty Co. 2, P. Garcia sur, sec 6, blk C, ru. Steinberger Pet. Corp.'s Shofner 1, A. Esparza sur, El 20 df, dst 6216-39 ft, 3456 ft 42 gr oil, 125 lbs, 24 min, sand 6232-39 ft, dr out plugs. Southwest Oil Corp.'s E. H. Welder 3, prep to make lcn.

DE WITT COUNTY—Stewart & Egan's R. Kleberg 1, J. J. Tumlinson sur, td 20 ft, mir to dd. Sunray Oil Co. et al's W. W. Buehrig 1, sec 7, T&NO sur, sd 2014 ft.

DUVAL COUNTY—Al Buchanan & Blanco Oil Co.'s G. Ruiz Est. 1, sec 73, dr 2200 ft. Conway & Buescher's A. H. Hoffman 2, sec 116, dk up, mir. Hamil & Hamil's G. Ruiz Est. 1, sec 41, dr 1000 ft. Harvey & Henderson's Chernosky 1, sec 226, 3 mi w Labbe gas field, elev 534 ft, df, top Jackson 1660 ft, sand 2220-34 ft, 7 in csg set 2220 ft, all slm measurements, wocs. Intrepid Oil Co.'s Parr Ranch 1, sec 26, re-cement 4856 ft, now sd. Magnolia Pet. Co.'s Bennett 1, sec 41, lcn. W. L. Pearson et al's Fitzsimmons 1, sec 291, testing 4425 ft, after pn fr 4552 ft. Santa Clara Oil Co.'s Wood-Welder 1, 330 ft nl, 2310 ft wl, sec 385, 1 mi s Harvey & Henderson test, lcn. Tex-La Oil Corp.'s Hubbard 1, sec 84, dr 500 ft.

FALLS COUNTY—Davidson et al's Bozeman 1, M. Pryor sur, dr 3240 ft.

FRIO COUNTY — Amerada Pet. Corp.'s Davies & Burke 1, B. L. Crouch sur, Pearsall area, dr 400 ft. W. D. Bacon et al's J. F. Burns 1, T. B. Clifton sur, lcn. Shoemaker

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et al's M. Roach Est. 1, C. Wentzel sur No. 139, sd 2502 ft.

GONZALES COUNTY—Southwestern Dev. Synd. Ltd's W. S. Atkinson 1, S. Y. Reims sur, dr 3976 ft. Grayburg Oil Co.'s McKean 14, Cottle sur, Luling shallow test, top Aust'n chalk 1642 ft, set 6⅝ in csg 1644 ft, re-dr. A. D. Locke's Mrs. N. S. Lowman 1, C. Campbell League, dr 1800 ft, last rept. Seideman's Fee 2, Esnaurrizar sur, sd 2340 ft. Suttle et al's Baenzinger 1, A .O. Manchcla sur, td 2155 rt, to re-work abt 4-10-35, will pb and test upper horizons. L. E. Trout et al's M. McKee 1, Green DeWitt sur, fsh 3090 ft.

HIDALGO COUNTY — D. D. Oil Co.'s Brock & Showers 1, lot 8, blk 9, Vista Hermosa sub, por 80, dr 4840 ft. D. D. Oil Co. & K. D. Harrison's Mrs. Lula George 1, tr 13, por 41, coring 2660 ft. D. M. C. Oil Co.'s Daskam 1, blk 43, por 45, dr 3480 ft. E. H. East, Trustee's F. M. Carter 1, blk 19, Retama sub, Del Tule sur, sd 1032 ft. Earl Hankamer et al's Frank Rabb 1, Laguna Seca League, dr 2675 ft. Ernest Powell's Geo. A. Moore 1, por 42, coring 2775 ft. E. A. Showers et al's Brock & Showers 1, lot 11, blk 18, por 79, sd 3000 ft, contract depth. Union Sulphur Co.'s American Rio Grande Land & Irr. Co. 3, lot 2082, blk 86, N. Capisallo Dist., Llano Grande gr, sand 7477-93 ft, set 7-in csg 7477 ft, prep to dr out plugs.

JACKSON COUNTY — Shell Pet. Corp.'s McCrory 1, sec 15, Morris & Cummings sur, dr 4725 ft.

JIM HOGG COUNTY—Edmiston et al's C. W. Hellen 1, sec 48, sd 1560 ft, rept ds stuck. French Oil Co.'s Pena 1, blks 41 and 42, White sub, share 2, El Peyote gr, sur 574, dr 1550 ft. Miller et al's Yeager 1, blk 6, sur 20, coring 2590 ft. Sun Oil Co.'s Weil 1, sur 13, San Domingo de Abajo Gr., dr 3650 ft.

JIM WELLS COUNTY — O. W. Killam's W. D. Wade 4, blk D, S. A. Agua Dulce sur, Sandia area, td 4850 ft, pb and perf csg 2930 ft to comp as gasser, could not comp at 4022-29 ft.

KARNES COUNTY—Harvey & Henderson's Paul Jauer 1, A. Borsheimer sur, sp. Luling O&G Co.'s W. W. Boyce 1, S. D. Still sur, clear lcn. H. A. Pagenkopf's McAda 1, Carlos Martinez sur, Pettus sand 2503-30 ft, dry, dr 2960 ft.

KERR COUNTY—Jeff Love & Eastland Oil Co.'s Jeff Love 5-E, J. Martinez sur, sec 1594, cement cavity 4725 ft, wocs.

KLEBERG COUNTY—Clymore Prod. Co.'s Flato 2, ru. Fidelity Exploration Synd.'s Kivlin 1, lot 4, blk 39, KT&I sur, sp. Parr & Ponder's Sam Michalk et al 1, lot 5, blk 37, KT&I sur, dr 1000 ft.

LA SALLE COUNTY — C. W. Beck 1, Rancho Feliz 1, sec 47, dr 1395 ft.

LAVACA COUNTY—L. A. Douglas' Fehrenkamp 1, M. Mitchell sur, dk up, mir.

LIVE OAK COUNTY—Baugh & McMillan's Walton & Campbell 1, D. R. Fant sur, td 3214 ft, hole caved, co. Henderson Coquat's Sartain 1, sec 43, Simmons sub, dr 1000 ft; H. E. Rex 1, GH&H sur No. 1, sd 800 ft. Houston Oil Co.'s Cartwright 31, Sandman sur, set csg 5249 ft, dr out plugs. L. D. Ormsby's Etta Terrell 2, Elizabeth Jurdin sur, dr 1200 ft. Rowan & Hope, Inc.'s L. R. George 1, John Ely sur, dr 2787 ft. Smith & Storey's Frederick 1, Jane Curry sur, elev 104 ft df, td 5208 ft, sand 5201-8 ft, 5 3/16 in csg set 5194 ft, dr out plugs. J. O. Whittington et al's Little 1, M. M. Shipp sur, td 5344 ft, sand 5334-44 ft, set 7 in csg, wocs.

McMULLEN COUNTY—Howeth & Swiger's W. H. Rhodes Ranch 1, sec 22, M. F. Lowe sur, prep to sp. Points et al's W. Fahler 1, Pittuck sur, sd 650 ft.

MEDINA COUNTY—Lynd & Hepler's Mary Ann Jungman 1, N. B. Rogers sur No. 33, elev 757 ft df, fsh for ds 1500 ft.

MILAM COUNTY — Second National Oil Co.'s B. P. Ward 2, L. Taylor sur, set sur csg, sd.

NUECES COUNTY—A. F. Holliday's Stillwell 2, blk 31, Sheppard Farm Lots sub, blew out 996 ft, ran wild, controlled, prep to dd. J. K. Sutton et al's J. Sagarin 3, Sheppard Farm Lots sub No. 5, CEPI&M sur, dr 3200 ft. Texon Oil & Royalty Co.'s Buckholt 1, J. Ward sur, dr below sur csg 990 ft.

REAL COUNTY—H. J. Heartwell et al's L. J. Haby 2, AB&M sur No. 175, re-instate-

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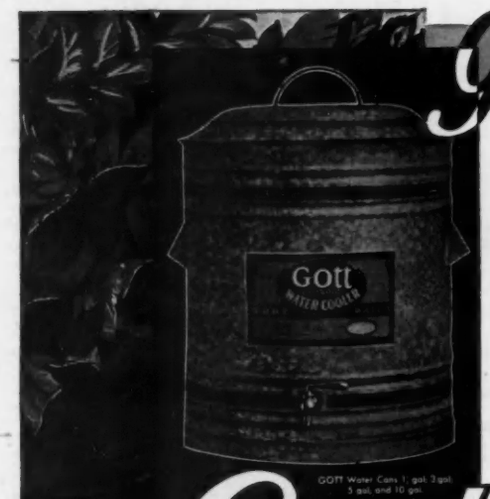

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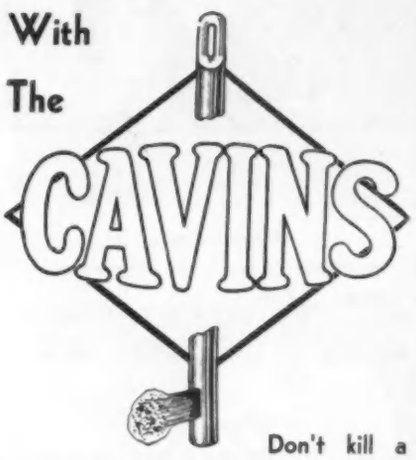

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Houston and Kilgore, Texas, and Shreveport, La.

ment, sdtr lost bailer and set csg to 2840 ft, prep to dd.

REFUGIO COUNTY—Humble O&R Co.'s Mrs. M. M. Marberry 1, J. Dunn sur, sand 2025-32 ft, dst failed, dd. Magnolia Pet. Co.'s Mattie Woods 1, S. Turner sur, dr 5158 ft, sticky shale. Quintana Petroleum Corp.'s Tom O'Connor 2-B, M. L. White sur, coring 9850 ft.

SAN PATRICIO COUNTY — Heep Oil Corp.'s Welder 1B, Portilo sur, pn 5910 ft, pb 5454 ft, jetting 35 bbls oil per day. Humble O&R Co.'s Welder 1, lot 4, A&O sub, Villareal gr, sd 6490 ft, acct high water. A. E. Masterson et al's W. A. Wurzbach 1, C. C. Hornsby sur, sd 2264 ft, dr water well. Plymouth Oil Co.'s Welder 2-A, J. M. Portillo sur, dr 2400 ft; Welder 1-C, sec 49, re-sub of Welder ranch, elev 55 ft. d.f., 10 mi ne Sinton, sand 5218-22 ft, show oil, run dst. Stanolind O&G Co.'s J. J. McMillan 1, Fulton Pasture sub, P. Fitzsimmons sur, td 6020 ft, running electric formation testing device.

STARR COUNTY—John H. Clopton's Roos et al 1, por 92, sd 4516 ft, contract depth; D. L. Tijerina 1, share 14-C, blk 14, por 80, prep to re-dr 1750 ft. Conroe Drlg. Co.'s Guerra 1, blk 35, J. N. Crawford sub por 56, prep to sdtr, td 2206 ft. Conway & Emanuel's Starr County Cattle Co. 1, blk 57, J. L. sub, por 89, td 2711 ft, running tubing to comp. Crawford et al's Hicks and Phelps 1, Pedernal gr, td 1617 ft, pb 1200 ft, sd. H. L. Curry's Kelsey Bass 1, sur 8, por 75-76-77, sd 1500 ft. Goodwin & Zimmerman's N. Pena 1, share 80, por 81, dr 1600 ft. W. F. Lacy et al's G. M. Dabney 1, por 99, dr 1995 ft. Merren, Johnson & Bond's Starr County Cattle Co. 4, blk 24, J. L. sub por 89, td 4213 ft, prep to set csg 2834 ft in sdtr hole. Mitchell et al's R. G. Salinas 1, sh 39, por 80, blk 2, dr 1050 ft. Sun-Ray Oil Co.'s Munoz 1, por 75, sp.

VICTORIA COUNTY—Moore & Ahern's Henderson & Pickering 1, W. Rupley sur, sand 5324-35 ft, dst 400 lbs gas, core deeper. The Texas Co.'s A. M. McFaddin 9, J. M. Rine sur, prep to mim.

WEBB COUNTY — Carolina-Texas O&G Trust's Benavides 11, ne sec 683, sd 4023 ft; Barnhart 1, de la Garza sur, sec 262, r 2174 ft. Gates Ranch Oil Co.'s Gates 7, sur 62, sp. Frank McMillin's A. M. Bruni Est 1, se sec 77, fsh 3540 ft.

WILACY COUNTY — South Texas Dev. Co.'s F. Armendiez 1, Little Share 4, td 5165 ft, could not recover 3000 ft ds lost in hole, abnd, will drill another well.

WILLIAMSON COUNTY—Gault & Nim's H. V. Seggern 1, John Bevil sur No. 56, dr 785 ft.

WILSON COUNTY — Universal Oil Co.'s Burney 1, at Floresvile, prep to sp.

ZAPATA COUNTY—Danvers & Harrison's N. J. Vela 1, blk 7, Vela sub, por 29, coring below 2275 ft. Joe Palmer's J. M. G. Martomez 1, blk 27, sec 424, sd 1480 ft. Vollmering et al's A. M. Bruni 2, 2615 ft nel, 5500 ft nwl of Barrocito Pasture Borrego gr, sp.

TEXAS GULF COAST

ANGELINA COUNTY—Coston & Howard's Penn 1, 8 mi w of Lufkin, J. Watson sur, sd. Leetex Oil Co.'s A. H. Geisler 1, 1 mi nw of Lay, B. J. Thompson sur, prepared to spud. Koch & Duffey's L. W. Alberry 1, near Diboll, J. A. Prado sur, standing 2030 ft. E. B. LaRue's W. D. Ivey 1, near Huntington, Scarbrough sur, water sand 1743 ft. Pioneer Exploration Co.'s S. L. & B., L. Huffman 1, 6 mi ne of Lufkin, S. Donegan sur, dk.

AUSTIN COUNTY—Arkansas Fuel Co.'s Otto Huedner 1, 5 mi e of New Ulm, Renke Stolze sur, dr shale 1005 ft. John C. Crosman et al's Corp. of San Felipe 1, 4½ mi se of Sealy, San Felipe de Austin 5 League, dk. Paul English's F. Luhn 1, one mi se of Kenney, D. Chandler sur, dk.

BRAZORIA COUNTY — Amerada Pet. Corp.'s Houston Farms Dev. Co. 1, s of Liverpool, L. G. Bachelder sur, abd td 7663 ft. The Texas Co.'s Freeport Sulphur Co. 1, 2500 ft e of Canal, nwc of S. F. Austin sur, in Areola sur, dr shale 2125 ft.

BURLESON COUNTY—Frank Krall's F. Krall 1, e of Deanville, Cox sur, dr shale 1826 ft.

CHAMBERS COUNTY—Humble's Clark 1, Anahuac area, H&TC sur, sec 57, 985 ft.

GRIMES COUNTY—W. B. Roan et al's G. W. Sealy 1, sw of Kellum Springs, B. F. Smith sur, coring 2727 ft. Russ Pet. Co.'s Gibbs 1, ne of Singleton, Henry Hays sur, dr shale 1610 ft.

HARRIS COUNTY — Hamilton, Hill & Hill's C. R. Wharton 1, 2½ mi w of Fairbanks, W. C. R. R. sur, sec 5, dr shale 7170 ft. Johnson & Johnson's Fee Land 1, s Houston, HT&B sur, dr shale 1785 ft. W. U. Paul's House 1, 100 ft n of House 1, M. Magruda sur, woc 7765 ft. T. S. & F. Oil Co.'s J. B. Hines 1, 1½ mi sw of Lynchburg, A. McCormick sur, building new dk, to 3524 ft. West Prod. Co.'s O. P. Woodburn 1, Genoa, A. Whitlock sur, mir.

JASPER COUNTY — Republic Prod. Co.'s Sabine Tram Co. 1, ne of Buna, H&TC sur, sec 71, dr lime 5635 ft.

LIBERTY COUNTY—Jack Frazier's Lynott Buffon 1, n of Hardin, J. Robeson sur, preparing to make drill stem test, td 7364 ft. Lynott Buffon 2, 7500 ft e of Buffon 1, J. Robeson sur, lcn. Liberty Independent Oil Co.'s J. M. Neal 1, S. Strong sur, dr shale 4011 ft.

MATAGORDA COUNTY—H. M. Smith's Wadsworth 1, Mad Island prospect, S. R. Fisher sur, whipstocking 5626 ft.

MONTGOMERY COUNTY—W. C. Keeble's T. S. Foster Estate 1, J. M. De La Garza sur, dr shale 3660 ft. E. M. Compton's J. Bennett 1, F. B. Wheeler sur, coring 3510 ft.

POLK COUNTY—Smith & Thompson et al's E. Haynes 1, e of Leggett, J. Whitmore sur, dr shale 3310 ft. Kirby Pet. Co.'s Kirby Lbr. Co. 1, T. F. Pinckney sur, dr shale 4602 ft.

WALKER COUNTY—S. E. Grey's C. Weinzell 1, se of Riverside, J. J. Porter sur, dr shale 2968 ft.

WASHINGTON COUNTY—Arkansas Fuel Oil Co.'s A. Witscharke 1, nw of Burton, J. D. Miller sur.

WHARTON COUNTY — The Texas Co.'s Pierce Estate 1, se of Pierce, I&GN sur, sec 38, dr shale 5910 ft.

LOUISIANA GULF COAST

ACADIA PARISH—Humble's Rice Milling Co. 1, s of Crowley field, sec 27-10s-2e, pb 8429 ft woc, td 9139 ft. Woodley Pet. Co.'s Dr. Newman 1, Churchpoint, sec 24-7s-1e, dr shale 7884 ft.

CALCASIEU PARISH—Nichols McCaleb's Cray 1, 3 mi nw of Starks, sec 22-8s-13w, sd 868 ft.

CAMERON PARISH — The Texas Co.'s Jessen 1, s of Calcasieu Lake, sec 24-14s-10w, abd 9030 ft.

JEFFERSON PARISH—Lincoln Oil Co.'s Rigaud 1, Grand Island, sec 28-21s-25e, dr shale 6450 ft.

JEFFERSON DAVIS PARISH—The Texas Co.'s Bayou St. Denis 1, 6 mi se of Lafitte sec 19-17s-24e, dr sand and shale 8199 ft. Strake Oil Corp.'s Calcasieu Bank 1, 3 mi sw of Woodlawn, sec 12-9s-6w, dr shale 8120 ft.

ST. MARTIN PARISH—The Texas Co.'s State Blum Bob 1, 3 mi ne of Henderson, sec 9-8s-7e, dr shale 5954 ft.

ST. MARY PARISH — Edwards Drilling Co.'s Chetemaches 1, near Charenton, sec 34-13s-9e, dr shale 8140 ft.

NORTH LOUISIANA

BIENVILLE PARISH — Saline Drilling Co.'s Pardee 1, ne ne 27-14n-6w, dr 3819 ft sandy shale.

BOSSIER PARISH—W. A. Kirklin, Tr.'s Garrett & McKellar 1, se nw nw 3-21n-13w, sd 1520 ft. Plain Dealing Synd.'s S. H. Bolinger Lbr. Co. A-1, sw se nw 31-23n-13w, dk. Richplain Oil Co.'s Gains 1, nw nw 22-22n-13w, dk and mir. Scott & Howard's Sherrill 1, nw sw 13-18n-12w, ru and sd. L. R. Skidmore's Davis 1, se se 12-18n-13w, sd 1250 ft.

CADDO PARISH—Ed Bailey et al's Hartzo 1, ne nw 28-22n-15w, sd 1230 ft. W. T. Bell et al's Bostick 1, sw sw 12-22n-16w, claim so, bailing, td 2754 ft. Louanna O&G Co.'s Noah Moore 1, ne ne 8-18n-16w, elev 268 ft, spd

dr 600 ft. Simplex Oil Co.'s Keith 1, sw se 18-20n-14w, dk.

CLAIBORNE PARISH—K. C. Bundy's J. K. King 1, 12-21n-7w, dk. J. C. King et al's Odis Webb 1, nw ne 21-21n-8w, sd 1899 ft, sandy shale. E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, rur.

DE SOTO PARISH—E. B. Bird et al's A. D. Johns, Jr. 1, se nw 20-14n-16w, elev 290 ft, top Nacatosh 1229 ft, Sartagoa chalk 1410-65 ft, base annona chalk 1930 ft, dr 1950 ft, ozan shale. Century Oil & Drilling Co.'s J. M. Norton 1, sw se 27-11n-14w, tested 8½ mil ft gas and show sw with 850 pounds rock pressure, td 2825 ft. G. O. Collins et al's J. H. Riggs 1, ne sw 21-14n-13w, wocs 10-in csg 45 ft. Flesh & Hootkins' J. S. Farmer 1, nw se ne 14-12n-13w, dk and mir. E. L. Foster et al's Youngblood 1, ne ne 9-11n-14w, dr 2687 ft. P. G. Frailey et al's J. E. Stell 1, 5-12n-16w, rur. Hester et al's Alston 1-A, ne sw 11-11n-18w, arr pb td 2600 ft. J. T. McCormick et al's Harris 1, sw se 11-12n-14w, mim. Ramsey-DeSoto Oil Co.'s J. W. Ramsey 1, se nw 36-11n-11w, sd 210 ft.

EAST CARROLL PARISH—Century Oil & Drlg. Corp.'s Olivedell Pltg Co. 1, 56-21n-12e, dr 300 ft.

MADISON PARISH—Frazier et al's Frazier 1, nw se se 23-17n-10e, dr 2000 ft. Southern Land & Expl. Co.'s Deltic Invest. Co. 1, nw nw 1-17n-12e, lcn.

MOREHOUSE PARISH—Alex Rice, Tr.'s Meyers 1, 15-22n-7e, dk.

NATCHITOCHES PARISH—Clyde Creighton's Friedman Est 1, swc 52-7n-6w, sd 2935 ft. Edwards & Turner's Prudential Life Ins. Co. 1, nw nw 26-10n-6w, dk. Leslie Prod. Co.'s Tom Moffitt 1, se nw 19-10n-10w, lcn. Roy Raines et al's Fee 1, sw sw 28-9n-10w, fsg ds 3660 ft. B. E. Taylor's De Blieux 1, 83-10n-7w, rur.

RAPIDES PARISH—S. J. Taylor's Bentley Lbr. Co. 1, 40-5n-1w, elev 108 ft, fsg drill pipe, td 4465 ft Wilcox shale.

SABINE PARISH—M. T. Hines' J. B. Hill 1, sw ne 4-6n-11w, dr 1715 ft. Laurel Pet. Co.'s Long-Bell Lbr. Co. 1, sw sw 14-8n-14w, wocs 10 in csg 56 ft. Whitehurst et al's Logan Oil Co. 1, nw ne nw 3-9n-13w, used acid, td 1956 ft.

WEBSTER PARISH—Virgil Likens' E. L. Stewart 1, nw nw 25-18n-10w, dry in ds test in Claiborne, dr 660 ft.

ARKANSAS

ARKANSAS COUNTY—Grand Prairie Dev. Co.'s Fischer 1, nw ne nw 6-6s-4e, sd 3510 ft.

ASHLEY COUNTY—Glen E. McFadin et al's Bovine Farms 1, ne ne 1-18-8w, elev 178 ft, cored Nacatosh sand 2760-73 ft, no show, arr core ahead.

COLUMBIA COUNTY — Southern States Gas Co.'s Pine Woods Lbr. Co. 1, sw ne nw 10-20-22, wocs 10 in csg 200 ft.

LA FAYETTE COUNTY—W. H. Harvey's A. M. Allen 2, se sw 18-19-24, cemtd 6⅝ in csg 2780 ft; R. F. Allen 1, ne se sw 13-19-25, dk. S. H. Riggs et al's Jas. Dubose 1, se nw 35-15-24, sd 2390 ft. Transportation Pet. Co.'s Red River Lbr. Co. 1, sw sw 26-19-25, elev 250 ft, top Nacatosh 1804 ft, dr 3005 ft.

LONOKE COUNTY—J. C. Strahan's Hardin 1, nw nw 18-2s-7w, fsg, td 2323 ft.

MILLER COUNTY—C. J. Hodges et al's Commercial Nat. Bank 1, sw ne se 30-17-28, dk. King Oil Corp.'s E. G. Anderson 1, nw sw ne 16-14-27, dr 2002 ft. Lee Timberlake's Frost Est. 1, sw sw se 27-15-26, fsg 2925 ft.

NEVADA COUNTY—Carnett et al's Floyd Munn 1, 16-14-22, spd.

OUACHITA COUNTY—S. J. Carnes' P. Highsmith 1, nw ne nw 25-13-18, spd and sd. T. J. Gaughan et al's M. Bragg 3, sw ne se 25-13-18, sd 1395 ft. Kraft Oil Corp.'s Rath & Cartier 1, sw sw sw 32-13-17, dr 1853 ft. Chas. Steele et al's H. W. Meyer Est. 1, se sw se 16-13-18, rur.

SEVIER COUNTY—Pendleton & Vaughan's Harris Est. 1, 34-9-30, waiting for cable tools to deepen, td 1320 ft.

UNION COUNTY—Gulf Ref. Co.'s Werner Lbr. Co. 49, sw nw sw 5-16-16, 10-in csg 2293 ft, dr 3989 ft (8000 ft test). H. L. Hunt, Inc.'s E. F. Gregory 15, 10-17-14, elev 180.4 ft, cored anhydrite and red shale 5796-5868 ft, cemtd 7-in csg 5834 ft, base red beds 5937 ft, dr

PROTECTION
Note the bevel on the Tool Joints. Not worn. The P-B Protectors prevented abrasion.

NO PROTECTION
Note the worn Tool Joint. Bevel is completely worn away and the Tool Joint has reached its limit of life. This drill pipe not equipped with a P-B Protector.

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This unretouched photo tells its own story. Here are the ends of three pieces of drill pipe. Two pieces were equipped with Patterson-Ballagh Protectors. The pipe in the center had no protection. Its life is less than half that of the protected pipe. The longest-life Protectors are Patterson-Ballaghs, as evidenced by several hundred thousand placed in service. Be sure the name Patterson-Ballagh appears on the Protectors you order.

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6266 ft lime and shale (7000 ft test). Joe Modisett et al's se se 6-18-13, est 2 mil ft gas 2536 ft, dr 4016 ft, sandy lime. E. O. Olds' Telford 1, nw nw 35-17-15, wosr, td 2211 ft. Reuter Oil Co. Inc.'s Kinard 1, nw se nw 32-18-14, co td 2196 ft; Vines 2, nw sw se 29-18-14, wosr, td 2216 ft. Urbana-Union Oil Co.'s Union Sawmill 1, nw sw 34-17-15, wocs 10-in csg 150 ft.

TENNESSEE

FAYETTE COUNTY—Hay-Fay O&G Co.'s Morrison 1 (1 mi n Laconia), top Mississippian (sub-sea) 1549 ft, dr Mississippian rock 2450 ft. Mike Kissick's Claxon 1 (9 mi n Somerville), logged Mississippian 1855-2435 ft, dr 3300 ft, Devonian rock. Mid-Continent Dev. Co.'s Smith 1 (2 mi s Dancyville), drill stem stuck, hole junked 1400 ft, arr skid over for new hole.

HAYWOOD COUNTY—E. Randall Henderson's Jarrett 2 (1½ mi s Brownsville), 7-in csg 2182 ft, dr 2650 ft, Devonian rock, top Mississippian 1740 ft (sub-sea).

MISSISSIPPI

CLARKE COUNTY—L. Beckwith et al's Long-Bell Lbr. Co. 1, ne sw se 19-2n-16e, elev 378 ft, rur.

JONES COUNTY—Snow-Black Pet. Co.'s Fox 1, se se sw 30-7n-12w, dr 2150 ft, sandy shale.

LAUDERDALE COUNTY — Dalton Dev. Co.'s Bounds 1, nw ne se 3-6n-15e, dr 1475 ft.

MONROE COUNTY—P. J. McAlpine et al's Crook 1, ne ne 4-13s-18w, elev 413.6 ft, recemtd 6⅝-in csg 1880 ft, sd for liner, td 2259 ft, green shale.

MONTGOMERY COUNTY—D. C. Schaffer et al, Fee not given, 31-19-7, lcn.

STONE COUNTY—Gulf Ref. Co.'s Dantzler Lbr. Co. 7, se se 36-3s-11w, dr 4095 ft.

WARREN COUNTY—Harry W. Elliott's R. L. Parker 2, nw nw 14-14n-1e, elev 80 ft, cemtd 4½-in csg 1600 ft, td 1602 ft, sand, claim sg.

WINSTON COUNTY—Jack Vale's Moody 1, nw sw 3-13n-14e, elev 540 ft, top Midway chalk 857 ft, sd installing another boiler, td 864 ft chalk.

ALABAMA

COVINGTON COUNTY—Geometer Prod. Co.'s A. B. Culbreth 1, sw sw ne 8-2n-14e, dr sandy shale in Eutaw 3850 ft.

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est. 1, sw nw sw 9-3n-29e, co to deepen, td 2506 ft.

PIKE COUNTY—Ala. Drilling Co.'s Faulk 1, nw nw 31-11n-21e, ru&sd.

FLORIDA

HILLSBOROUGH COUNTY — Southern Pet. Co.'s Mizell & Williams 1, 4-32s-21e, elev 120 ft, sd for csg, td 2100 ft.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1 (sec hole), se se 17-24s-25e, elev 110 ft, top Ocala 90 ft, cemtd 16-in csg 132 ft.

Harrison County

Marshall, Texas. — Harrison County, Texas, had one new location and one abandonment last week. Roy C. Swails and associates made location and spudded Bonnie Pitts 1, located 330 feet north and west SEc G. W. Martin Survey.

R. C. Payne's W. C. Lowrey 1, E. D. Spain Survey, was junked at 3524 feet after plugging back from old total depth of 4003 feet.

Natural Gas Production Company has spudded and is drilling below 3210 feet in H. H. Alvord 4, B. C. Jordan Survey, in the old Bethany field, Panola County. This test is 40 feet northeast of H. H. Alvord 1 in the same survey which was the discovery gasser in that field in the Glen Rose found around 4400-4500 feet.

Osage, Wyo.—Small refineries in the tri-state basin area of northeastern Wyoming, western Nebraska and southwestern South Dakota are forming a strong market for Wyoming crude oil. A survey of the district shows 34 skimming plants in the area with a combined daily capacity of 3215 barrels. These refineries are running at about 40 percent of capacity, and the Osage field near here is supplying them with around 900 barrels of oil daily. Other crude sources are the West Mule Creek and Lance Creek fields of eastern Wyoming. The remainder of the crude is shipped in from distant points.

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NEWS *from the* *Industry's* EQUIPMENT MAKERS

H. P. Schultz Made Sales Manager for Republic Rubber

O. S. Dollison, vice president of Republic Rubber Company, Youngstown, Ohio, has announced the appointment of Herman P. Schultz to the position of sales manager.

HERMAN P. SCHULTZ

Mr. Schultz joined The Republic Rubber Company in February, 1922, as manager of its planning division. November 1, 1929, he was made traveling sales manager and on August 31, 1931; was promoted to manager of mechanical sales.

Wilson-Snyder Establishes Mid-Continent Offices in Tulsa

Wilson-Snyder announces establishment of a Tulsa office in charge of Robert C. (Bob) Chenoweth, who will handle the sale of pumps for refinery process, pipe line and industrial applications. His office is located at 405 West First Street, in the Oil Well Supply Company Building.

Bob Chenoweth is well known in the Mid-Continent territory, and Wilson-Snyder's many friends and customers will welcome the re-establishment of facilities insuring prompt handling of requirements.

Oil Well Supply Company continues as distributor of Wilson-Snyder slush pumps, Oil Country pumps, and accessories, for the drilling and production divisions of the oil industry.

Lufkin Foundry & Machine Co. Observes 35-Year Anniversary

Observing the 35th anniversary of the founding of Lufkin Foundry and Machine Company, the officers and directors threw open its plant and properties for the inspection of the public and set aside one day especially for the employe's families. During the three-day "open-house" more than 2000 men, women and children visited and inspected the plant and were served refreshments. One feature of the visitation was a photograph display depicting the early days in the life of this plant—some photographs dating back 25 years and more when the "plant" at that time consisted of only a few frame buildings and a limited number of tools. Since that time it has enjoyed a growth until the present plant covers many thousands of square feet of floor space, commodious machine shops, structural and forge departments, arc-welding departments and a grey iron foundry said to be the largest in the Southwest. Modern and efficient tools are employed in the manufacture of its equipment, and the steel buildings that have long ago replaced the first wooden structures are modern with ample light and ventilation. Electric cranes and other late types of handling devices add to the efficient handling of the heavy equipment.

C. M. Hammond, writing some time ago in The Texas Weekly, Dallas, on the growth and progress of Lufkin Foundry & Machine Company, said in part:

"Although Lufkin Foundry & Machine Company was organized in 1900, its marvelous growth, from a small machine shop to the largest thing of its kind in the southwest, really dates from the year 1905. It was in that year that W. C. Trout, now president of the company, took charge of the plant as superintendent, and the story of the growth of the business is the story of W. C. Trout.

"His rare inventive genious coupled with extraordinary sales ability are in the main responsible for the great success of the company, and his keen foresight has enabled him to plot the course of the business through the years with sound and excellent judgment. Instead of going down with the decline of the industry which it was originally built to serve, as so many businesses have done, the company has been able to change with the times and go forward to bigger and better years in its annual business."

For 22 years Lufkin Foundry & Ma-

Partial Group Employees Lufkin Foundry & Machine Company, Lufkin, Texas, March 23, 1935

chine Company catered exclusively to the sawmill industry of the southern states. Some of the largest sawmills in the southwest are products of this plant. With the vanishing timber supply, it was found necessary to direct the energy, activity and experience of its large organization to more productive fields. With this idea in mind attention was directed to the oil industry and soon followed, in the order named, the manufacture of refinery fittings, engines and rotary drilling rigs and finally reduction gear units for oil well pumping. Entry into the oil well pumping business was made 11 years ago and there soon followed improvements in the lifting of oil such as the Trout rotary counterbalance crank and other devices well known to oil men everywhere. Since the advent of the Lufkin unit, these rigs, it is said, may be found in every principal oil field of the world.

Offices and warehouses are maintained in all principal oil centers, with the executive offices and factory in Lufkin, Texas. The company was established in 1900. Its capital and surplus is over $1,000,000, its annual business in excess of $2,500,000 with a daily capacity of 100 tons of grey iron. Its employes number some 300, many of whom have been with the company for 20 to 30 years and in the majority of cases are home-owners in Lufkin. At the end of the "Open-House" celebration employes gave a surprise testimonial barbecue in honor of W. C. Trout who at this time was entering upon his 31st year as the directing head of this institution.

C. B. Nolte Is Elected President of Crane Co.

C. B. Nolte was elected president of Crane Co. on March 26. J. B. Berryman, who had been president since 1931, and who has been connected with the Crane organization since 1892, became chairman of the board. As chairman, he will be able to transfer his heavy responsibilities to Mr. Nolte's shoulders, and at the same time, will be in position to follow closely the further progress of the company.

Since 1909, just after he received his Bachelor of Science degree in Mechanical Engineering at the University of Illinois, Mr. Nolte has been with Robert W. Hunt Company, consulting, testing, and inspecting engineers. This concern is the largest in its field, with offices and chemical, metallurgical, concrete and physical testing laboratories at 21 of the larger centers in this and foreign countries. Successively he became division manager, manager, vice president and general manager, until in 1930, he was appointed president and general manager. This position he held until he was elected to his new office.

Baash-Ross Tool Company Formally Opens Houston Plant

Formal opening of Baash-Ross Tool Company's new plant at 5300 Clinton Drive, Houston, was celebrated with a house warming Friday. Friends of Baash-Ross Tool Company from throughout the Gulf Coast country were present at the opening. The new building is the first unit of a manufacturing plant which, when completed, will be one of the large plants in the Gulf Coast area.

Present at the opening were L. F. Baash of Los Angeles, president of the company; H. C. Ross of Los Angeles, vice president; A. S. Brown, vice president in charge of the Mid-Continent territory; H. R. Murray of Los Angeles, secretary-treasurer, and H. J. Craig, manager of sales in the Mid-Continent.

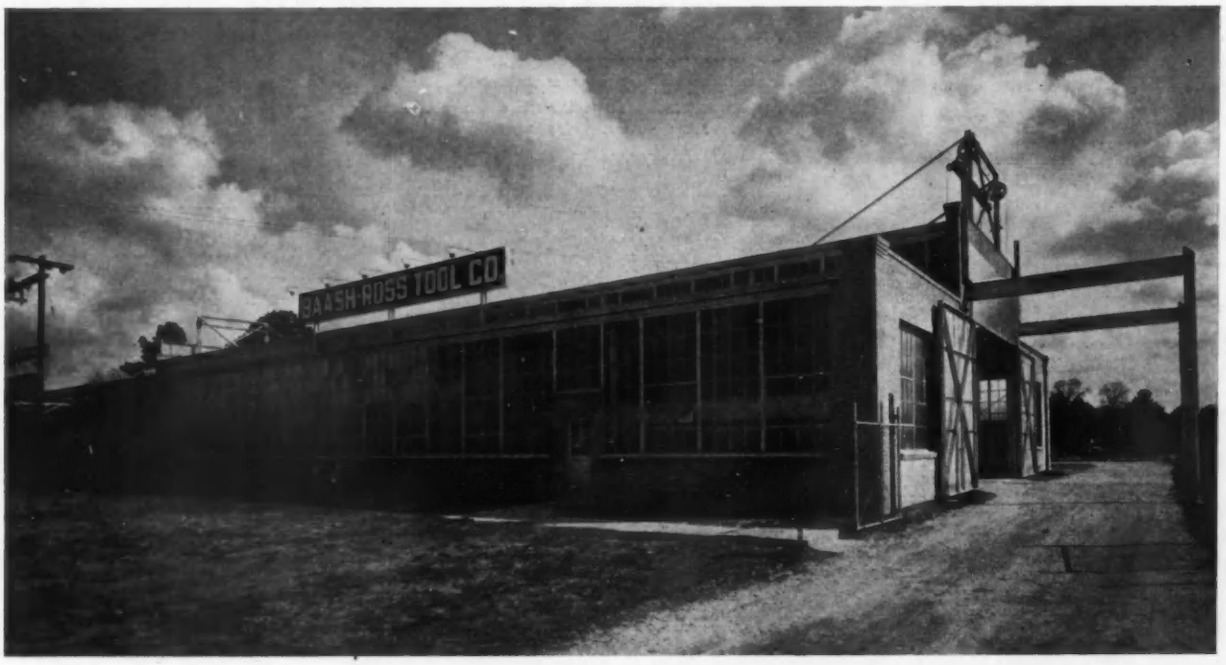
Two New Gulf Coast Maps Are Available

Two new maps now are available at Gulf Coast Engineering Company, Houston, Texas.

A new ownership map of southeastern Harris County and northern Brazoria County, showing the Manvel, Hastings, Mykawa, Pierce Junction, South Houston, Genoa and Friendswood fields, is offered. The map shows the development within these fields and dry holes in the different areas. It is drawn on a scale of one inch to 2000 feet.

The other new lease and ownership map covers the southwest quarter of Hidalgo County and southeast quarter of Starr County. The map shows the Samfordyce, Barbacosa and Rio Grande City fields, also drilling wells and dry holes embraced within the area. The scale of the map is one inch to 2000 feet. The size is three and a quarter by seven feet.

H. E. ROTHROCK and M. M. Knechtel, members of the United States Geological Survey, recently addressed the Geological Society of Washington, D. C., on, "Evidence of Recent Crustal Movement at the Western End of the Ouachita Mountains, Oklahoma." Rothrock was formerly chief geologist for Superior Oil Corporation with headquarters in Tulsa.



New Houston Plant of Baash-Ross Tool Company

Squeaks *from the* BULL WHEEL

Two babies, conversing in the approved 1935 baby style. Said the first infant:

"What changes would you make if you could be born all over again?"

"Well," said the second youngster, "the first thing I'd do would be to insist upon taking my food from a bottle. I'm sick and tired of getting cigarette ashes in my eyes."

Sandy (entering nursery garden)—Have ye a nice cucumber?

Gardner—Aye, here's one. That will be five pence.

Too much. Have ye no' one for tuppence?

Ye can hae this for tuppence.

All richt, here's the tuppence. But don't cut it off; I'll be calling for it in about a fortnight.

On a busy Saturday a lady telephoned for three theatre seats.

"Very sorry, not a seat left," said the box office attendant, "but we have one private box."

"Oh," said the lady, "that's no use. I can't see anything from a private box."

"Perhaps not, madam," retorted the diplomatist, "but everybody can see you."

The box was sold immediately.

"What is a budget?"

"Well, it is a method of worrying before you spend, instead of afterward."

"What has kept you so late?"

"I was fixing a new ribbon on my typewriter."

"You ought to be ashamed to admit it. You get rid of her or there will be trouble!"

"Ah, good mornin', Mrs. Murphy, and how is everythin'?"

"Sure, an' I'm havin' a great time uv it between me husband and the fire. If I keep me eye on the wan, the other is sure to go out."

The hotel clerk was growing impatient as the prospect took so long to read the names on the register. "Just sign on that line, please," said the clerk.

The prospect was indignant, and retorted: "Young man, I'm too old a hand to sign anything without readin' it."

Say, have you folks got a bottle opener around here?

Yeah, but he's away at college.

I notice your husband always has his hair cut short.

Yes, the coward.

Down in Alabama, a negro preacher who had served a short jail sentence in his earlier life was fearful lest his congregation discover the fact, as in later years he had been a model of rectitude. One Sunday, rising to begin his sermon, his heart sank to see a former cellmate sitting in the front row. Quick thinking was necessary. Fixing his eye on the unwelcome guest, the preacher announced solemnly: "Ah takes mah text dis mo'nin' from de sixty-fo'th chapter and fo' hundredth verse of de book of Job, which says: 'Dem as sees and knows me, an' says nothin', dem will Ah see later'."

A stranger came into a small-town grocery store and asked, for all the old eggs on hand. As he put the last one into the bag, the grocer said facetiously, "It looks as though you were going to see 'Hamlet' played tonight."

"No, sir," came the answer grimly. "I am going to play Hamlet tonight."

"Judge," cried the prisoner in the dock, "have I got to be tried by a woman jury?"

"Be quiet," whispered his counsel.

"I won't be quiet! Judge, I can't even fool my own wife, let alone 12 strange women. I'm guilty."

A recent article mentions that a good poker player can successfully run any business. But what does a good poker player want with a business?

TRY IT AND SEE

Take your age—
Multiply by 2—
Add 5—
Multiply by 50—
Subtract 365—
Add the loose change in your pocket under a dollar—
Add 115—
And the first two figures in the answer are your age and the last two the change in your pocket.—*Bridgeport Bulletin.*

"I never take my trouble home with me from the office."

"I don't either, mine's already there."

"May I kiss you?"

Heavens! Another amateur."

"She says she thinks she can learn to love me."

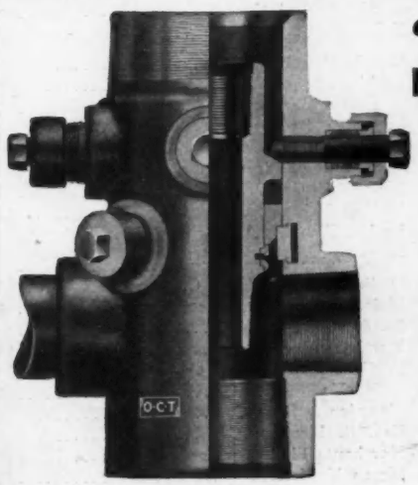
"Well that sounds encouraging—and still you don't look happy."

"No; I took her out last night and the first lesson cost me my whole week's wages."

one of our TUBING HEADS

on display at the

HOUSTON OIL SHOW



Type MS

These heads are built in pressures up to 6,000 pounds test.

We believe this is the only tubing head in which you can land tubing through master gate of the same size as the casing on which the head is used. It is full throat head with expanding and retracting tubing hanger setting ring. Tubing can be run, landed and locked down from outside of the job before blowout preventer or master gate is removed.

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OIL CENTER TOOL CO.

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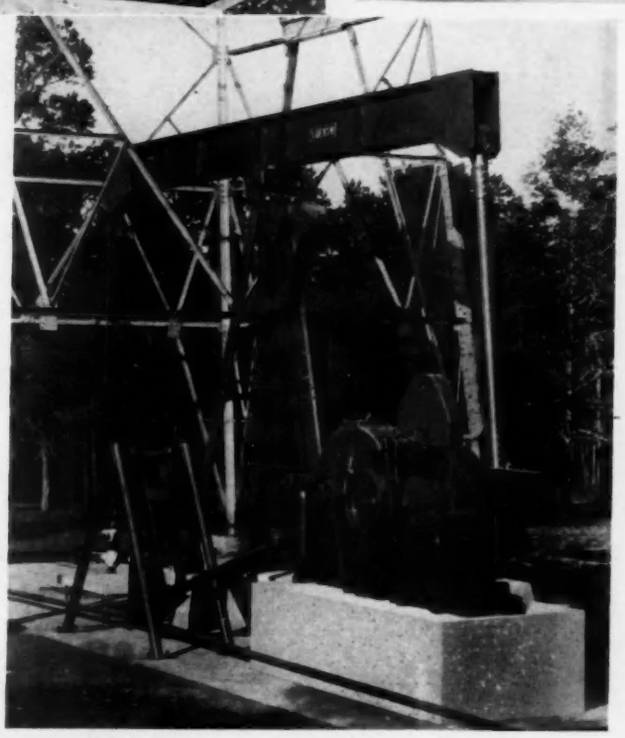

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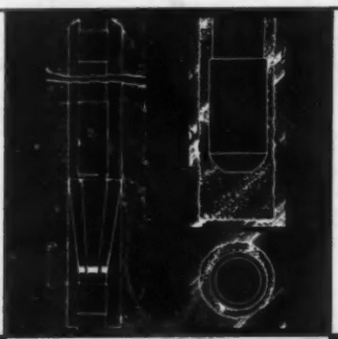
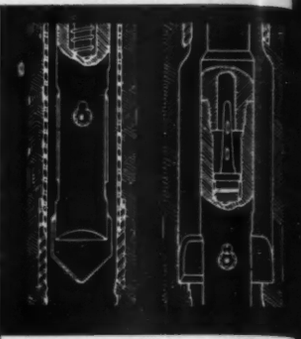
Lufkin Units are manufactured in Lufkin, Texas, by the LUFKIN FOUNDRY & MACHINE COMPANY, machinery manufacturers since 1900. Branch offices in Houston, Dallas, Tulsa, Los Angeles, New York, Henderson and El Dorado.

SEE THE COMPLETE LINE OF MODERN BAKER OIL TOOLS AT THE HOUSTON SHOW

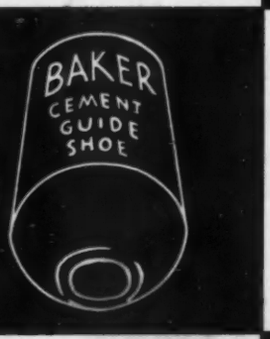
CAREFUL preparation of the hole before casing is run and the use of the most suitable cementing equipment give you the greatest assurance of obtaining a successful cement job. The diagrams show (a) a hole enlarged by underreaming with a Baker Rotary Wall Scraper to provide ample clearance for cementing a liner, and (b) a hole "bottlenecked" to assure distribution of cement completely around the shoe and shoe joint.



THE blades of the Baker Rotary Wall Scraper are folded inside the body (a) while running in and coming out of the hole. Positively expanded when pumps and rotation start they quickly cut their way out to the fully expanded position shown at (b). All the hole, or any desired portion of it can be reamed. Great depth does not affect the safe, easy operation of the Baker Rotary Hydraulic Expansion Wall Scrapers.



EACH of the seven sizes of Baker Rotary Wall Scrapers can be fitted with blades selected from a wide range of sizes, affording an amazing range of expansion. For instance, the No. 6 Wall Scraper will ream from 9¼ inches to 19 inches in diameter depending on the blades used, yet the largest O.D. of the body is only 7¾", same as a 6⅝" Standard A.P.I tool joint.

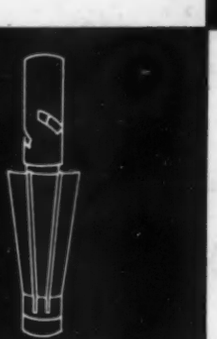


ONLY special Baker Formula Concrete is used in constructing the internal plug in all Baker Cement Equipment. Three times as strong as ordinary concrete, it assures strength beyond the collapsing strength of your casing. The Baker Cement Guide Casing Shoe will safely guide your casing. The concrete plug can be easily drilled up and circulated out of the hole, leaving it free from metal or objectionable matter.

THE double-seal valve securely anchored within the concrete plug of all Baker "Floating" Cement Equipment, whether Shoes or Collars, is constructed only of Bakelite and a special rubber sealing ring. The buoyant Bakelite ball valve provides a leakproof seal both while the casing is being "floated" into the hole and after cementing. The Baker Cement Float Shoe safely guides and floats your casing.

THE Baker Cement Whirler Shoe not only guides and floats your casing but assures a more complete distribution of cement. Side holes leading out of the valve chamber from below the valve are baffled to whirl the cement in an upward spiral about the pipe. Even though the bottom circulation hole is closed the side holes provide ample circulation and complete distribution of the cement

THE Baker Cement Float Collar not only floats your casing safely, it also serves as a stop for the plugs used in cementing and assures a better consistency of cement around the casing shoe. In deep wells, where the investment is great and every precaution should be taken, it is considered good practice and good insurance to use a Baker Cement Float Collar in combination with a Baker Cement Float Shoe.



FOR cementing combination strings or cementing at any depth, the Baker Cement Whirler Collar provides maximum safety and assurance of success. The side holes, similar to those of the Baker Cement Whirler Shoe, permit free circulation of the cement and assure its even distribution by whirling it upward about the pipe. The canvas basket serves as an outside packer to prevent the cement or cavings from coming in contact with the oil sand.

Strength-Valve Efficiency-Drillability

With the cost of drilling the well at stake, experienced operators and engineers readily appreciate the necessity for taking every precaution to assure the success of cementing operations. Offering the ultimate degree of safety, only Baker Cement Equipment possesses the three essential qualities of *Strength, Valve Efficiency* and *Drillability* in *balanced* combination.

BAKER CEMENT EQUIPMENT

for guiding—floating—cementing casing

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